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HISTORY
OF
CULTIVATED VEGETABLES.

VOL. I.

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LONDON :

PRINTED BY S. AND R. BENTLEY, DORSET STREET.

Ed. Williams

H I S T O R Y
OF
CULTIVATED VEGETABLES;
COMPRISING
THEIR BOTANICAL, MEDICINAL, EDIBLE,
AND CHEMICAL QUALITIES; NATURAL HISTORY;

&c. &c.

BY HENRY PHILLIPS, F.H.S.

AUTHOR OF THE

“ POMARIUM BRITANNICUM; OR, HISTORY OF FRUITS KNOWN IN
GREAT BRITAIN.”

SECOND EDITION.

IN TWO VOLUMES.

VOL. I.

LONDON:

HENRY COLBURN, NEW BURLINGTON STREET.

1827.

TO THE KING.

SIRE,

IN dedicating this “ HISTORY OF CULTIVATED VEGETABLES” to Your MAJESTY, the Author is sensible that the condescension of the SOVEREIGN, in accepting so humble a tribute, will be far more conspicuous than the ability of the Subject by whom it is offered.

However deficient the Writer may be in the graces of style, he is not without a due sense of the advantages with which a high state of Cultivation has blessed these kingdoms. Under the liberal Patronage of Your MAJESTY, and your Illustrious Predecessor, the Arts of Agriculture and Horticulture have advanced towards perfection with a rapidity unparalleled in the history of any other nation, ancient or modern.

The benign influence of these two arts is indiscriminately enjoyed by all ranks; for while they supply the wealthy with all the luxuries of more genial climes, they afford to the humbler sons of industry and labour a diversified banquet, which in ancient times even kings could not procure. These arts have banished famine from the land, blessed the poor with plenty, beautified the country, and

— “ Made Albion smile,
One ample theatre of sylvan grace.”

That Your MAJESTY may long enjoy these blessings, with which bounteous Nature has rewarded the skill and industry of your Subjects, and enriched your dominions, is the fervent prayer of,

Your MAJESTY'S
Most faithful subject and servant,
HENRY PHILLIPS.

Queen's House, Bayswater,
Dec. 24, 1821.

P R E F A C E.

IT is not without feelings of anxiety and apprehension, that the Author commits his second Work, on the vegetable gifts of Nature, to the public.

Their indulgence to his labours in the vineyard, has emboldened him to venture on a more extensive field; he therefore now offers his Treatise on “**CULTIVATED VEGETABLES**,” in a similar shape, with a hope of similar reception. Considering, however, the almost infinite variety of plants which are cultivated for use or pleasure, the Author has thought it expedient to select those familiar plants which seem entitled to the most general attention. He has also introduced some species of vegetables that are not strictly *cultivated*, but whose services and singular properties render them worthy of notice.

He has avoided the technical terms of Botany as much as the subject would possibly allow; keeping in mind the advice of an ancient poet, who says,

Αμαθέστερον φράσον καὶ σαφέστερον.

“ Speak with less shew of learning, so it be with more perspicuity.”

And the extracts from medical works have, on the same principle, been as much simplified as the nature of the subject would properly admit.

In giving the medicinal qualities of the plants, the Author’s intention is to make their various properties known, in order that the prescriptions of the physician may not be counteracted by the effects of an improper vegetable diet; not to induce the inexperienced to tamper with their constitutions, by means of the powerful juices of physical herbs, which are not more beneficial when skilfully applied, than they are baneful when administered unseasonably by the ignorant.

The most experienced medical practitioner will admit, that he must often rely on the assistance of the nurse and the cook for the perfect re-establishment of his patient. Cooling medicine will afford little relief to the fevered invalid who is supplied with astringent diet; nor will stimulating cordials invigorate the body, while it is relaxed by attenuating aliment.

The Author is aware, that modern practice has long since disregarded the high encomiums bestowed on certain vegetables by the ancients; but he considers the antique physic-gardens an object of no less interest than antique orchards; and as the modern sons of Ceres and Pomona have improved their art, by reviving and adopting some of the ancient practices, (particularly that of cutting corn before it is perfectly ripe, which was so strenuously recommended by Pliny nearly eighteen hundred years ago,) the disciples of Esculapius may, in like manner, discover some valuable matter among the

neglected or disregarded receipts of the ancient world. Should the present work contribute to such a result, the Author will then have effected all the benefit he could anticipate.

It is hoped that the learned Reader will not deem the Author intrusive or pedantic in giving a slight biographical sketch of the ancient writers he has quoted; as such memoirs may not always be familiar to those who may be disposed to turn over his leaves, nor is it to be expected that the farmer or the gardener is fully acquainted with ancient physicians; or that those whose occupations confine them to cities, should have acquired a perfect knowledge of the lives of the agriculturists of antiquity.

Selections from those poets who seem to have made this part of Nature's works their peculiar province, have been interspersed, from a desire to clothe information in an amusing garb; and sometimes as the only confirmation of ancient customs, which the

Author could give. He has been more particularly desirous to introduce cheerful (but at the same time, he trusts, inoffensive) anecdote, with a hope of leading by an agreeable road to a knowledge of Plants, and love of Natural Philosophy : and more particularly to render his work attractive to the younger part of his readers, whom he intreats not to abandon Virgil, when they bid adieu to their tutors, but to remember those lines of his Georgics :

“ *Felix, qui potuit rerum cognoscere causas,
Atque metus omnes et inexorabile fatum
Subjecit pedibus, strepitumque Acherontis avari !
Fortunatus et ille, Deos qui novit agrestes,
Panaque, Silvanumque senem, Nymphasque sorores !*

Thus translated by Dryden ;

“ Happy the man, who, studying Nature’s laws,
Through known effects, can trace the secret cause,
His mind possessing in a quiet state,
Fearless of fortune, and resign’d to fate.
And happy too is he who decks the bowers
Of Sylvans, and adores the rural powers.”

INTRODUCTION.

“ To me be Nature’s volume broad display’d ;
And to peruse its all instructing page
My sole delight.”

It would be a difficult question to decide, whether the study of the natural history of Plants be more agreeable to the mind, or beneficial to the body. The importance of this pursuit must be deeply felt by the reflecting mind ; indeed it has advantages over every other science. The study of Natural History, and particularly of Botany, calms the mind, and quiets the passions; whereas Historical research produces unpleasant reflections, and in tracing the fate of kingdoms or individuals our feelings are often as much distressed as our minds are amused. Other branches of philosophy too often disgust us

with the world, whereas the wonders of Nature display the power of the Almighty in the most agreeable and tranquil manner.

“ Go, mark the matchless workings of the Power
 That shuts within the seed the future flower ;
 Bids these in elegance of form excel,
 In colour these, and those delight the smell ;
 Sends Nature forth, the daughter of the skies,
 To dance on earth and charm all human eyes.”

COWPER.

Ray says, “ No knowledge can be more pleasant to the soul than Natural History : none so satisfying, or that doth so feed the mind. The treasures of Nature are inexhaustible: there is enough for the most indefatigable industry, the happiest opportunities, the most prolix and undisturbed vacancies.”

The vegetable world presents an almost infinite variety of objects, calculated not only to supply our numerous wants, but to gratify the senses, to delight the most refined taste, and to elevate the mind to the God of Nature.

— “ Thus the men
 Whom Nature’s work can charm, with God himself
 Hold*converse, grow familiar day by day
 With his conceptions ; sit upon his plan,
 And form to his the relish of their souls.”

AKENSIDE’S *Pleasures of Imagination.*

The charms of Nature have ever enchanted the sensitive soul of the poet, and inspired his verse. Courtier says, in his "Pleasures of Solitude."

" Though yet no cynic, still I must prefer
 The works of Nature to the whims of Art :
 Those speak their God—these oft from God deter ;
 Those to the soul true health and peace impart,
 These oft pervert the head, and oft corrupt the heart."

Blackmore also invites us to this study :

" Your contemplation further yet pursue ;
 The wondrous world of vegetables view !
 See various trees their various fruits produce,
 Some for delightful taste, and some for use.
 See sprouting plants enrich the plain and wood,
 For physic some, and some design'd for food.
 See fragrant flowers, with different colours dyed,
 On smiling meads unfold their gaudy pride."

And Thomson must have induced many an admiring reader to a contemplation of the wonders and wisdom of the Almighty Maker ;—who,

— " when young Spring protrudes the bursting gems,
 Marks the first bud, and sucks the healthful gale
 Into his freshen'd soul ; her genial hours
 He fully enjoys ; and not a beauty blows,
 And not an opening blossom breathes in vain."

Natural philosophy has never been introduced with success into any country until its inhabitants had made considerable progress in other arts. The Assyrians, Chaldæans, and Egyptians, had attained great proficiency in this science long before the existence of either the Greeks or Romans, who did not encourage it until they had learnt the art of war, and had in great measure become civilized by the very nations they had conquered.

In this kingdom, Lord Bacon was the first who cultivated natural philosophy ; and it is from his torch that many excellent lights have since been kindled.

In the primitive times, when men were driven either by war, or a wandering disposition, to form colonies in distant countries, they lived upon such fruits as sprang out of the earth without art or cultivation. At Argos they fed chiefly on pears, at Athens on figs, in Arcadia on acorns ; but, as their numbers increased, it became necessary for them to cultivate vegetables for the subsistence of themselves and their cattle ; and we find that in those early days the labours of the agriculturists were so duly appreciated, that the persons of the husbandmen and the

shepherds were held sacred even by the enemies of their country.

Herodotus informs us, that one of the greatest princes of the East, Xerxes, when he led his army into Greece, gave strict orders to his soldiers not to annoy the husbandmen. Among the Indians, it was held unlawful to take these men in war, or to devastate their plantations.

Cultivated vegetables afford the principal part of our subsistence; for without the aid of cultivation our numerous flocks and herds could not be supported; and it is from the same source that we derive every comfort and luxury that we enjoy. They furnish our wine, our oil, and our ale; as well as the greater portion of our garments and furniture; they are the natural medicine of all animals, as well as the principal one for man. A medical writer of eminence says, “ Vegetable food is not only necessary to secure health, but long life. In infancy and youth we should be confined to it mostly; in manhood, and decay of life, use animal; and near the end, vegetable again.”

I am persuaded, says Dr. Veitch, that it will be invariably found true, that those who are living on animal food, are more impetu-

ous in temper, than those who live on vegetable aliment." The same author says, "The influence of diet is of the most vital importance in the prevention and cure of insanity. Those living on animal food present great fulness of the vessels on the surface of the body, which is not confined to the visible and external frame, but will be felt in the brain and membranes of those who are afflicted with, or who have a tendency to this disease.

It is to vegetable productions, that commerce owes its support. They form our ships, cordage, and sails; and it is for vegetable rarities, principally, that we cross the seas, and explore every clime from the equator to the poles.

The unlettered countryman examines vegetation with delight and instruction. The peasant, who is an attentive observer of Nature, substitutes the pimpernel and the chickweed, for a weather-glass; finding, when these flowers fully expand, that no rain will fall for some hours. The husbandman finds also a barometer in the trefoil, which always contracts its leaves at the approach of a storm. The shepherd, when he sees the thistle-down agitated without an ap-

pearance of wind,

“ And shakes the forest-leaf without a breath,”
drives his flock to shelter, and cries, Heaven
protect yon vessel from the approaching
tempest! Then

— “ chaff with eddy winds is whirl’d around,
And dancing leaves are lifted from the ground ;
And floating feathers on the waters play.”

VIRGIL.

The philosophical student of Nature not
only accounts for these phenomena, but
sees as far as man can ken into the wonders
of vegetation.

— “ But the hidden ways
Of Nature wouldest thou know? how first she frames
All things in miniature ? thy specular orb
Apply to well-dissected kernels ; lo !
Strange forms arise, in each a little plant
Unfolds its boughs : observe the slender threads
Of first-beginning trees, their roots, their leaves,
In narrow seeds described ; thou ’lt wondering say,
An inmate orchard every apple boasts !”

PHILIPS’s *Cider*.

We shall often have to remark in this
work, how much the atmosphere of this
country has been improved by the attention
paid to agricultural pursuits ; and that the
high state of cultivation now attained, has in
a great measure banished the ague, and
other pests of life, from our shores ; while

we learn with regret, that the once purer air of Italy is become almost pestilential in the vicinity of Rome, from the want of proper attention to the draining and cultivation of the fields.

Gardens have ever been esteemed as affording the purest of human pleasures, and the greatest refreshment to the spirits of man; and as these rural delights greatly promote sedateness and quietness of mind, while they afford the advantages of air and exercise, they must tend to the establishment of health and the prolongation of life. We notice with great satisfaction, that the lives of the ancient as well as of the more modern herb-alists, have generally extended to an advanced age; and that some of them have even pursued their tranquil course without indisposition through life.

A knowledge of plants will prevent many of those ills, for the relief of which, mineral aid is often sought in vain. We have found the perfume of flowers and shrubs in the garden, not only refresh the sense, but inspire cheerfulness and good humour in those who walk, and create appetite in those who join in the labour, whether to turn the earth, or to prop the drooping flower. For where is

the man who can forbear to join

— “ the general smile
Of Nature? Can fierce passions vex his soul,
While every gale is peace, and every grove
Is melody?”

THOMSON.

“ Where every breeze shall medicine every wound.”

SHENSTONE.

Rapin says,

“ Thrice happy they who these delights pursue ;
For whether they their plants in order view,
Or overladen boughs with props relieve,
Or if to foreign fruits new names they give,
If they the taste of every plum explore,
To eat at second course, what would they more?
What greater happiness can be desired,
Than what by these diversions is acquired ?”

The Chinese have no school for the study of physic ; but they make use of simples and roots, and are generally well experienced in the knowledge of the several virtues of all the herbs growing in their country ; and which every master of a family teaches his servant. Lewis and Clark, and other travellers up the Mississipi, observe, that the native Americans always carried with them roots and herbs, of which they had discovered the use.

The predilection of the ancient Syrians for gardening gave rise to the proverb of the

Greeks, “ Many worts and pot-herbs in Syria.”

The Greeks had physic-gardens in the time of Theophrastus ; and Pliny often mentions the medicinal herb-gardens of the Romans.

We meet with no English work on plants prior to the sixteenth century. In 1552, all books on geography and astronomy in England were ordered to be destroyed, as being, it was supposed, infected with magic. It is very probable, that works on the virtues of herbs underwent the same fate ; as witchcraft was thought to be assisted by various plants. The Babylonians had their magical observations in gathering certain herbs ; and the Latin poets inform us, how superstitious the Romans were on this head.

“ These poisonous plants, for magic use design’d,
(The noblest and the best of all the baneful kind)
Old Mœris brought me from the Pontic strand,
And cull’d the mischief of a bounteous land.
Smear’d with these powerful juices, on the plain
He howls a wolf among the hungry train :
And oft the mighty necromancer boasts,
With these, to call from tombs the stalking ghost,
And from the roots to tear the standing corn,
Which, whirl’d aloft, to distant fields is borne :
Such is the strength of spells.”——

VIRGIL.

“ In a large caldron now the medicine boils,
 Compounded of her late collected spoils,
 Blending into the mash the various powers
 Of wonder-working juices, roots, and flowers.”

OVID.

Our immortal bard, availing himself of the credulity of the age, makes the weird sisters, in their incantations, employ

“ Root of hemlock, digg'd i' the dark ;
 Liver of blaspheming Jew :
 Gall of goat, and slips of yew.”

Macbeth.

The English surgeons and apothecaries began to attend to the cultivation of medicinal herbs in the time of Henry the Eighth. Gerard, the father of English herbalists, had the principal garden of those days, attached to his house in Holborn, and which we think was in existence as late as 1659 ; for on the 7th of June in that year, Evelyn mentions in his Diary, that he “ went to see the foundation laying for a street and buildings in Hatton Garden, designed for a little towne, ^{certainly} ~~but this~~ ~~is~~ ~~not~~ ~~the~~ ~~case~~ lately an ample garden.”

Gerard mentions several private herb-gardens in 1597, but does not notice any public establishment for the encouragement of his art. We therefore presume, that Oxford has to boast of the earliest public physi-

1632

garden in this country, which appears to have been planted about the year 1640, when Parkinson first published his work on plants; as in a letter written to that author by Thomas Clayton, his Majesty's professor of physic at Oxford, to compliment him on his "*Herculean botanical labours*," he says, "Oxford and England are happy in the formation of a specious illustrious physicke-garden, compleatly beautifully walled and gated, now in levelling, and planting, with the charges and expences of thousands, by the many ways Honourable Earl of Danby, the furnishing and enriching whereof, and of many a glorious *Tempe*, with all useful delightfull plants, will be the better expedited by your painfull, happy, satisfying worke."

We may infer how little the art of gardening was understood in this country at that period, when we find the garden at Oxford was put under the direction of a German, who continued to hold that situation in the time of Evelyn, as appears by his Diary: "24 Oct. 1664, I went to the Physic-garden at Oxford, where were two large locust-trees, as many *platana**, and some rare plants, under

* We presume this was the Plantain tree, *Musa*.

the culture of old Bobart."—" Jacob Bobart was a German, and was appointed the first keeper of the Physic-garden at Oxford."

A botanic garden was planted at Padua in 1533, and one at Presburg in 1564. At the present time there are twenty-three botanic gardens in the Austrian monarchy. France has two noble establishments for the encouragement of this art ; and Amsterdam may boast, not only of having enriched Europe, but the West Indies also, with plants from her public garden ; while Sweden may justly pride herself on giving the world a Linnæus.

Evelyn, whose *Sylva* has immortalized his name, notices in his Diary, June 10, 1658, " I went to see the medical garden at Westminster, well stored with plants, under Morgan, a skilful botanist." This remark has given rise to a supposition, that it was the garden belonging to the Apothecaries of London, prior to its being removed to Chelsea ; but this was not the case, as Coles mentions it as a private garden, in his *Paradise of Plants*, published in 1657, where (in chapter 8) he says, " some plants grow only in the gardens of herbarists, as in Mr. Morgan's garden at Westminster."

We find no authentic account of a public physic-garden in the vicinity of London, before the year 1673, although it appears in the minute-books of the Society of London, (June 21, 1674) that several members proposed to build a wall round Chelsea Garden, at their own expense, with the assistance of such subscriptions as they might be able to procure ; provided the Court of Assistants would agree to pay two pounds every year for ever, to each of the six *Herborizings* : which proposal was accepted. The proprietors of the Laboratory Stock gave fifty pounds towards the building of this wall, on the condition that they were to be allowed a piece of ground in the garden for Herbs.

Evelyn observes, in his Diary, 7th August, 1685, “I went to see Mr. Wats, keeper of the Apothecaries Garden of Simples at Chelsea, where there is a collection of innumerable rarities of that sort, particularly, besides rare annuals, the tree bearing jesuits bark, which had done such wonders in quartan agues. What was very ingenious, was the subterranean heate, conveyed by a stove under the conservatory, all vaulted with brick, so as he has the doores and windowes open in the hardest frost, secluding only the snow.”

We conclude, that this was the first green-house heated by artificial means, in this country ; as Mr. Evelyn had visited most gardens in England, as well as in France and Italy, without noticing green-houses before.

Sir Hans Sloane was a great friend to the Chelsea Garden establishment, and by the deed of conveyance of the land from this great man, it will be seen how anxious he was for its prosperity ; a clause is inserted which runs thus: "That the Master, Warden, and Society of Apothecaries shall render yearly to the President, Council, and Fellows of the Royal Society of London, fifty specimens of distinct plants, well dried and preserved, which grew in their garden the same year, with their names or reputed names ; and those presented in each year to be specifically different from every former year, until the number of two thousand shall have been delivered." This part of the covenant has long since been much more than fulfilled.

In the same year that this conveyance was signed (1722), Mr. Philip Miller was appointed gardener to the establishment, which office he filled with great honour to himself and benefit to his country for the long space of forty-eight years. He had not been in

that situation more than two years when he published his Gardener's Dictionary, in two volumes octavo, but which is not generally noticed by his biographers, although we deem it the germ and embryo from whence, in 1731, sprang his folio volume, which has since swelled into four large folios, and has been translated into the Dutch, German, and French languages.

Sir Joseph Banks, who was a liberal benefactor to this garden, commenced his botanical studies, it is said, under the tuition of the venerable compiler of the Gardener's Dictionary. Sir Joseph presented to the Chelsea Botanic Garden more than five hundred different kinds of seeds, which he had collected in his voyage round the globe. The services which this great naturalist has rendered his country are unparalleled, and will be remembered by posterity with gratitude, as long as these kingdoms are blessed with civilization.

It is said that the finest and most interesting collection of hardy herbaceous plants that this country could ever boast of, has been formed by the care and knowledge of Mr. William Anderson, the present gardener of the Apothecaries' Botanic Garden at Chelsea,

who was recommended to that situation by the late Sir Joseph Banks in the year 1814. Aiton and Forsyth were transplanted from Chelsea Garden to Royal grounds. The former is succeeded by his son in the care of the King's gardens, particularly that of the exotic garden of Kew, which perhaps contains the finest collection of plants ever congregated in any one spot on the globe.

This exotic garden, although now so superbly furnished with vegetable rarities, is of no great antiquity, having, we are told, been first established in the year 1760, by the Princess Dowager of Wales; but from an old verse in the Gentleman's Magazine for the year 1732, dated June 2, we find the garden was of some celebrity at that time.

“ The King and the Queen, the weather being fine,
On Saturday last went to Richmond to dine;
His Royal Highness that day was to view
His gardens and house, repairing at Kew.”

Evelyn writes in his Diary, Aug. 27, 1678,
“ I went to my worthy friend Sir Henry Capel (at Kew), brother to the Earle of Essex: it is an old timber-house; but his garden has the choicest fruit of any plantation in England, as he is the most industrious and understanding in it.”

The present Royal Family being greatly attached to the study of Botany, his late Majesty bestowed much attention on the garden at Kew, and had the satisfaction of seeing the example which he set, followed with such ardour by his subjects, that not less than 6756 rare exotic plants were introduced into these kingdoms during his reign, and exotic beauties are now seen blended with our natural verdure in every corner of the island. The bad taste in laying out our gardens, which was originally brought from France, no longer exists; and we are happy to observe, that the disguising of Nature and the frivolous formality in gardening is fast declining where it first took birth, as English gardeners are now in great demand in the vicinity of Paris. History furnishes no instance where a country has so rapidly improved in the arts of agriculture and horticulture as Great Britain, under the protection of George the Third, of whom justice and gratitude compel us to say, “ He made the land to flow with milk and honey.”

It is within the memory of the author, that Mr. Scrase first sowed wheat on the Downs near the Race-stand at Brighton, for which, and the building of barns on these supposed

sterile hills, he was thought to have lost his reason ; but the following harvest turned the ridicule of his neighbours into admiration and imitation, and these uncultivated tracts soon became a waving ocean of corn, which has made the Southdown farmer the pride and envy of the people.

The example given by one of the best of Kings, and the attention shewn to agricultural pursuits by an enlightened Nation, will, we trust, never be forgotten, as no treasure can be so valuable as that which protects us from famine and pestilence.

Sterne says, “ I am convinced there would be more attentive observers of Nature, if, for example, the spider spun threads of gold, if the lobster contained pearls, or if the flowers of the field made old people young.”

Reason tells us, that a well-tilled garden produces us more real luxuries, than mines of gold or oceans of pearls could afford us ; and experience teaches us, that although we are not made young by the virtue of plants, we may prevent premature old age by a knowledge of herbs.

We now offer our Literary Herbage, with a hope that most readers will gather some little store for the table, although the famili-

arity of the plants here presented, may, in some degree, detract from the novelty expected in every new garden that is laid open to the public. The Author has endeavoured to plant his beds amusingly, as an inducement to lead those into the study of plants, who have not yet entered on that delightful pursuit ; and although his parterres may not present that science which the learning of the present day demands, he flatters himself that no weed will be found so obnoxious as to offend the most refined delicacy.

HISTORY OF CULTIVATED VEGETABLES.

ARTICHOKE.—CINARA.

Natural order, Flosculosæ. A genus of the Syngenesia Polygamia Æqualis class.

THE generic name is said to be derived from the word *cinis*, because, according to Columella, land for artichokes should be manured with *ashes*. Parkinson says, it is so called from the ash colour of its leaves.

This vegetable now bears the same name in all the European languages, with very little variation. It is nearly allied to the *carduus* or common thistle, and is said by Pliny* to have been more esteemed, and to have obtained a higher price, than any other garden herb. He was ashamed to rank this

* Book 19, chap. 8.

vegetable amongst the choice plants of the garden, being in fact no other than the thistle. He states, that the *thistles* about Carthage the Great, and Corduba especially, cost the Romans, annually, six thousand thousand sesterces ; and concludes by censuring the vanity and prodigality of his countrymen, in serving up such things at table as the very asses and other beasts refuse, for fear of pricking their lips. We find in the fourth chapter of the same book, that the commoners of Rome were prohibited, by an arbitrary law, from eating artichokes. The same author says, artichokes are preserved in vinegar, and in honey, and seasoned also with the costly root of the lazerwort plant, and cumin ; by which means they were to be had every day in the year.

The juice of the artichoke, pressed out before it blossoms, was used by the ancients to restore the hair of the head, even when it was quite bald. They also ate the root of this plant (as well as that of the thistle) soddened in water, to enable them to drink to excess, as it excited a desire for liquor. It was supposed to strengthen the stomach, and was reported by Chæreas the Athenian, and Glaucias, to cause mothers to be blessed

with male children, as well as to sweeten the breath of those who chewed it. Columella notices the same quality in the artichoke, but intimates that it injures the voice.

——— “ Let the prickly artichoke
Be planted, which to Bacchus, when he drinks,
Is grateful ; not to Phœbus, when he sings.”

Both the Greeks and Romans appear to have procured this plant from the coast of Africa about Carthage, as also from Sicily.

From Italy it was brought to this country, during the reign of Henry the Eighth, about the year 1548 ; and, by reason of the great moisture of our climate, and the attention which was paid to its cultivation, it soon became so much improved in size and flavour, that the Italians sent for plants from England, deeming them to be of another kind, but they soon returned to their natural size, when restored to that country.

Gerard has left us correct representations of both the French and the Globe varieties, but makes no mention of their country or their introduction ; we may therefore conclude, that they were become common in 1596.

The Globe kind, being a plant infinitely more tender than the French artichoke, was

nearly lost in the severe winter of 1739-40, previously to which time it was almost the only kind cultivated, on account of its great superiority ; but our gardeners supplying themselves on that occasion with plants from Guernsey, where the French kind is cultivated, this variety again found its way into our gardens ; but was only retained until the Globe artichoke could again be reared, when the French species was no longer cultivated.

The artichoke affords a pleasant, wholesome, and nourishing food ; Arbuthnot says, "it contains a rich, nutritious, stimulating juice." The Italians and French eat the heads raw, with vinegar, salt, oil, and pepper ; but they are considered to be hard of digestion in a raw state, and are, therefore, generally preferred after having been boiled. In this state they are sold in the streets of Paris, and form a standing dish at a French breakfast.

The Germans and French eat not only the heads, but also the young stalks boiled, seasoned with butter and vinegar.

Artichokes are usually sent to our tables, when whole, boiled in water ; but they are much preferable when boiled in oil or butter. The artichoke bottoms are generally admired

when served up either plain, ragou'd, fricas-seed, fried, or pickled. Coles recommends artichoke bottoms baked in a pie after being boiled, as a restorative and strengthener of the stomach. Artichoke bottoms are dried in the sun for winter use ; but the whole artichoke may be preserved for a considerable time, if covered with fresh sand. Young artichokes are pickled whole.

The stalks blanched like celery, and preserved in honey, are said to be an excellent pectoral : the roots are considered aperient, cleansing, and diuretic ; and are recommended in the jaundice, for which disorder the common leaves, boiled in white-wine whey, or the juice of the leaves, are also considered salutary. We have known many persons greatly relieved from the bile, by drinking sherry wine, in which the common leaves and cut stalks of this plant had been steeped.

Lord Bacon observes, that no other herb has double leaves ; one belonging to the stalk, the other to the fruit or seed.

The field-mouse is a great destroyer of the roots of these plants ; and it is a good preservative of them to plant beets round the beds of artichokes ; as the roots of the beet, being still more agreeable to the taste of

these little animals than those of the artichoke, preserve the latter from these predators.

The French artichoke, *Cinara scolymus*, grows wild in the fields of Italy, where it often attains the height of a man.

The bottoms of the Cotton-thistle, *Onopordum acanthium*, are often eaten as artichokes.

ASPARAGUS.—ASPARAGUS.

Natural order, Sarmentaceæ. The genus of Asparagus is allied to Convallaria. In botany it stands in the Hexandria Monogynia class.

THIS plant takes its name from the Greek word Ασπαράγος, signifying a young shoot before it unfolds its leaves. Gerard says, “it is called in English *Sperage*, and likewise *Asparagus*, after the Latin name, because asparagi, or the springes heereof, are prepared before all other plants ; for the word asparagus doth properly signify the first spring or sprout of euery plant, especially when it be tender.”

It is evidently a native of this country, for the same author observes, that “the manured or garden asparagus comes up of the size of the largest swan’s quill ;” he adds, “it is the same as the wild, but, like other vegetables, was made larger by cultivation.”—“Our garden asparagus growtheth

wild in Essex, in a meadowe adioining to a myll beyond a village called Thorp, and also at Singleton, not farre from Carbie, and in the meadowes neere Moulton in Lincolnshire: likewise it groweth in great plenty neere vnto Harwich, at a place called Landamerlading." Miller was of opinion, that the common asparagus which is cultivated for the use of the table, might probably have been brought by culture to its present perfection, from the wild sort, which grows naturally in Lincolnshire, where the shoots are no larger than straws. It is well known how much the asparagus is improved in size since Gerard's time (1597); and it might be still farther improved, if our gardeners were to import roots of this plant from the borders of the Euphrates, where it grows to an extraordinary thickness.

The colony of the Joxides in Caria had a singular custom respecting asparagus, which, according to ancient tradition, owed its origin to the following story :---Perigone, having been pursued by Theseus, threw herself into a place thickly filled with asparagus and reeds; and prostrating herself, made a vow, that if these plants would hide her from Theseus, she would never pull or burn them.

The lover's voice, however, succeeding in drawing his fair-one from her hiding-place, she surrendered to the intreaties of Theseus, and her descendants ever afterwards forbade the burning of asparagus.

This vegetable first came into use as a food, about two hundred years before Christ, in the time of the elder Cato ; and its qualities were probably discovered by this distinguished agriculturist, as it was the last vegetable written upon by him. He mentions no other method of raising this plant than by seed ; and recommends sheep's dung for the beds, in preference to any other manure. This author was of opinion, that asparagus beds would only continue productive for nine years.

Suetonius informs us, in his Life of Augustus, that that Emperor was very partial to asparagus ; and Erasmus tells us the same in his *Adagia*.

Pliny states*, that asparagus, which formerly grew wild, so that every man might gather it, was in his time carefully cherished in gardens, particularly at Ravenna, where the cultivated asparagus was so fair and

* Book 19, chap. 4.

large, that three heads would weigh a pound, and were sold for an As, (about three-farthings.) He afterwards says, "of all garden herbs asparagus is (by report) the best to be eaten, and agrees well with the stomach."* The wild asparagus was called *Corruda* and *Lybicum*, and by the Athenians, *Horminium*.

It was said by the ancients, that, if a person anointed himself with a liniment made of asparagus and oil, the bees would not approach or sting him.

Asparagus is said to promote appetite, but affords little nourishment. Dr. James recommends it to be eaten at the beginning of dinner, when, he tells us, it is grateful to the stomach. If eaten before dinner, it refreshes and opens the liver, spleen, and kidneys, and puts the body in an agreeable state. Asparagus is considered to be of admirable service to those afflicted with the gravel, or who are scorbutic, or dropsical. It is also of singular efficacy in disorders of the eyes; but is hurtful to such as labour under the gout, or have weak stomachs.

The roots are more diuretic than the sprouts, because they have more of the salt,

* Book 20, chap. 10.

from whence they derive that quality, than any of the parts growing above ground, which cannot imbibe it so copiously as the root itself receives it from the earth. And this may pass for a reason why most roots are more endowed with this property than their plants. The root of asparagus is one of those called the five opening roots: it is also of some use as a pectoral; and makes a chief ingredient in the syrup of marsh-mallows, given as a remedy for the stone. It is good in all compositions intended to cleanse the viscera, especially where obstructions threaten the jaundice and dropsy. This vegetable is also salutary in many disorders of the breast, as operating by urine, which is generally of service in such cases.*

If the root is put upon a tooth that aches violently, it causes it to come out without pain, according to Ant. Mizald, and others.†

M. Roliquet has, it is said, discovered a new vegetable principle in asparagus: it is a triple salt of lime and ammonia, of which the acid is unknown. This chemist and M. Vauquelin have found a substance in the juice of this vegetable, analogous to manna.

* Galen, Hoffman, James, &c.

† Mizald, cent. 7. Memorab. Aph. 34. Schenck, Obs. Med. L. 1.

In Queen Elizabeth's time asparagus was eaten, says Gerard, "sodden in flesh-broth, or boiled in faire water, and seasoned with oil, vinegar, salt, and pepper, then serued at mens tables for a sallade."

At the present time it is principally served to table on a toast, or ragou'd. It makes an excellent soup, and the small sprue-grass forms a part of most of our spring pottages. It is often cut small and sent to table as a substitute for green peas.

The flowers of asparagus are found, on a strict examination, to be *diæcious*, although arranged by Linnæus, and other botanists, as *hermaphrodite*. Those which bear berries have abortive stamina, and those which have perfect stamina are destitute of pistils, or have only such as are abortive. The male plants throw up a far greater quantity of shoots than the female, although not quite equal to them in size.

In making new beds, the males only should be selected, which may be easily done by not planting them from the seed-beds until they have flowered. When the plants are one year old, transplant them into other beds, at six inches distance; let them remain there until they flower, which will be, with respect

to most of them, in the second year ; put a small stick to each male plant to mark them, and pull up the females, unless it is preferred to make a separate plantation of them, to prove the truth of the experiment.

Asparagus is now obtained by the attentive gardener at all seasons of the year, and the same plants are made to give two crops in the year by the following method : towards the end of July, especially if it be rainy weather, cut down the stalks of the plants, fork up the beds, and rake them. If it be dry, water them with the drainings of a dunghill, or with water wherein horse or cow-dung has been steeped ; leave the beds rather flat instead of the usual round shape, in order that they may retain all the moisture. In ten or fourteen days the asparagus will begin to appear : if the weather is dry, continue to water the beds two or three times a week. By this method you may cut asparagus till about the end of September, at which time the produce of the hot-beds will be ready ; so that, with five or six hot-beds during the winter, you may have a regular succession of this agreeable vegetable for every month of the year.

It may be observed that by cutting the

beds twice a year, you exhaust them ; to obviate this, succeeding beds should be prepared. We are, however, of opinion that asparagus beds do not become worn out, or unproductive, so soon as is generally imagined ; as some of the finest asparagus we have met with in this country, the author recollects to have been cut from a bed at Westburton, in Sussex, which he was then told had abundantly supplied Mr. Upperton's family for more than seventy years.

In Jamaica, and other West India islands, they cut asparagus in twelve months after the seeds are sown.

ASPHODEL—ASPHODELUS.

Natural order, Coronariæ. A genus of the Hexandria Monogynia class.

ASPHODELUS, is derived from *a*, and *σφάλλω*, *subplanto*, *σπόδελον*, from *σπόδος* ashes : asphodels being anciently planted with mallows on graves.*

The asphodel root was to the ancient Greeks and Romans, what the potatoe now is to us, a bread plant, the value of which cannot be too highly estimated. It has long since given way to its successors in favour ; and if now permitted to blossom, it is seen only in obscure corners of gardens, in which it perhaps was formerly the principal plant.

So universally has the Virginian plant superseded that of Troas, that we no longer consider the asphodel as an article of food ; and were it not for the occasional appearance of the *Hastula regia*, King's spear, in our par-

* Ray.

terres, this plant which nourished the ancients, and the verses in which it is celebrated by the poets, would have been equally forgotten.

The origin of this vegetable is traced in fabulous history to that memorable apple, which Discord threw into the assembly of the gods who attended the nuptials of Peleus and Thetis, as a prize for the fairest of the goddesses. The decision of Paris in favour of Venus is said to have offended Juno and Minerva so highly, that they endeavoured to break the beautiful crook which Pan had given to the shepherd of Ida, but which was saved by its turning into the blossom of a yellow asphodel, so much resembling a royal sceptre.

From this fable we conclude, that the ancients considered the asphodel a native of Mount Ida; and as modern botanists agree that the plant is indigenous to that neighbourhood, we will not dispute whether it first sprang up in the valley or on the hill, but will turn to the instructive pages of Pliny, who calls it one of the most sovereign and renowned herbs that the world produces; and says, that the roots boiled with husked barley are certainly the most restorative diet that can be taken by consumptive

persons, or those whose lungs are affected. He adds, that no bread is so wholesome as that which is made of these roots and the flour of grain mixed together. The same author tells us, that the roots of the asphodel were generally roasted under the embers, and then eaten with salt and oil; but when mashed with figs, they were thought a most excellent dish. Hesiod, the first poet who wrote on agriculture, mentions the latter method as the only way to dress asphodels. Homer has also noticed this plant. The asphodel appears to have been highly esteemed by Pythagoras, who has been styled by ancient authors the prince of philosophers. He lived upon the purest and most innocent food, and was so averse to the shedding of blood, that it is said, when he made offerings at the temples of the gods, it was of animals made of wax: he forbade his disciples to eat flesh. Theophrastus particularly describes the asphodel and its virtues; and Mago, the celebrated Carthaginian writer on husbandry, gave minute directions for its cultivation. Dionysius also wrote on this vegetable, one species of which he considered the male, and the other the female plant. Pliny tells us that these plants were so productive,

that it was not uncommon to see eighty bulbs or roots clustered together. The seed of this vegetable was also eaten when parched or fried, and it was generally planted by the Roman husbandmen before the gates of their farms, with the superstitious idea that it would preserve the place from charms and sorceries. According to the fiction of Lucian, asphodels are eaten by the ghosts of the condemned in the infernal regions. Among the physicians of ancient celebrity who wrote on this plant, Nicander recommends it as an antidote against the poison of serpents and scorpions, if either the seeds or roots be drunk in wine ; and asserts, that by laying the plant under the pillow, these and other reptiles will be kept from the bed : this was a most important discovery for the armies, who were obliged to sleep in fields abounding with creatures whose bite or sting was deadly.

Dioscorides and *Ætius* prescribed the wine in which asphodel roots were boiled as an excellent diuretic. Galen says, the roots burnt to ashes and mixed with the fat of ducks, are the best remedy for alopecia, and that it will recover the hair that has fallen off by that disease. Xenocrates affirmed, that a decoction of the root in vinegar was

a cure for the ring-worm, &c. We are informed, that Chrysermus the physician boiled the root in wine, and by it cured the swellings of the kernels behind the ears; and that Sophocles used it, both boiled and raw, with good success against the gout. Simnus esteemed it the best diuretic drink for the gravel, when boiled in wine. Hippocrates prescribed the seeds of the asphodel against the hardness of the spleen, and the flux which proceeds from that cause. He also applied the root, pounded, as a liniment for horses, or dogs, &c. afflicted with the mange; which, it is said, would both effect a cure, and restore the hair.

The ancients used a liniment made of the leaves, for wounds occasioned by serpents, and other venomous creatures; and the juice of the root, mixed with oil, was applied to burns and scalds, &c. Immense tracts of land in Apulia are covered with asphodel, and it is said to afford good nourishment to sheep.* The onion-leaved asphodel grows also in the natural state, both in Spain and the South of France.

Dodoens, who flourished at the com-

* Symonds in Young's Annals.

mencement of the sixteenth century, highly extols the virtues of the asphodel for most of the before-mentioned maladies; and adds, that a dram weight of the root, when boiled and taken in wine, relieves the pains of the side, the cough, the shrinkings of the sinews, the cramp, &c.

Gerard has given us a description of six species of asphodel, which he cultivated in his garden, prior to 1597; one of which he states to be a native of England; but as more modern botanists do not acknowledge it to be indigenous to this country, we shall give his own words: "The Lancashire asphodill groweth in moist and marshy places neere vnto the towne of Lancaster in the moorish grounds there, as also neere vnto Maudsley and Martone, two villages not far from thence; where it was found by a worshipfull and learned gentleman, a diligent searcher of simples, and feruent louer of plants, Master Thomas Hesket, who brought the plants vnto me for the increase of my garden. I received some plants thereof likewise from Master Thomas Edwards, apothecarie in Excester, learned and skilfull in his profession, as also in the knowledge of plants, unto whom I rest bounden for this plant,

which he found at the foote of a hill in the west part of England, called Bagshot hill, neere vnto a village of the same name."

This species of asphodel has a yellow blossom, and was thence called the King's spear. Gerard tells us, that the juice of the asphodel root cleanses and takes away the white morphew, if the face be first rubbed with a coarse linen cloth, and then anointed with it. He adds, that "it is not yet found out if the Lancaster asphodil is of use either in nourishment or medicine." Ray says, this species is a native of Sicily, where he found it growing.

The asphodel is said to be useful in driving away rats and mice, which have so great an antipathy to this plant, that, if their holes be stopped up with it, they will die rather than pass it; and it is said, that if a house be smoked with this root, it also banishes mice, or proves a poison to them.

If the root is put into the water which swine drink, it prevents their being affected with a pestilential leprosy, or if they have taken the disorder, it restores them to health. It also produces the same effect, if they are frequently washed with such a water.*

* Florentinus.

The vinegar in which the root has been boiled, if used for washing the body, cures scorbutic eruptions. Some roast the roots in hot ashes, and rub their faces and hands with them, in order to remove all blotches, and purify the skin.

This plant will thrive in any soil, if planted about three inches deep ; it is principally raised by dividing the roots, as the cultivation by seed is more tedious. It blossoms best in a damp soil, or when it is well watered.

BALM, OR BAUM.—MELISSA.

*Natural order, Verticillatae. A genus of the
Didynamia Gymnospermia class.*

THE Greeks called this plant *μελισσόφυλλον* *ἢ μελίφυλλον*, *melissophyllum*, or *meliphylum*, *id est, apum folium*, that is bee's leaf, from the fondness these insects shew for this herb. It is called *melissa*, from *μέλι*, honey, because bees gather much honey from its flowers. It has also been called *apiastrum*, from *apes*, a bee, on the same account; and it is still the custom to rub the hives with balm and sugar, or honey, previously to taking a swarm; a practice which certainly appears to have the effect of attaching the colony to its new settlement. Pliny notices this method of securing the bees in his time, and says, that where there is plenty of balm in the garden, there is no fear of the swarms straying; he tells us also, that it is a good remedy for the sting of bees and wasps, &c. and enumerates

a long list of complaints for which it was then considered an effectual medicine.

Virgil says, that bees which have strayed may be brought back by the juice of this herb.

“ When you the swarms 'scaped from the hives descry,
Like a dark cloud blown through the summer sky,
Swimming the boundless ocean of the air,
They still to pools and leafy bowers repair :
There juice of balm and woodbine sprinkle round,
Strike jingling brass and tinkling cymbals sound ;
The loved perfume will sudden rest inspire,
And they, as usual, to their hives retire.

LAUDERDALE.

Gerard says, “ Bawme is much sown in gardens, and oftentimes it groweth of itself in woods and mountaines, and other wilde places.” From this we should have been inclined to consider it a native plant ; but that we have never met with it growing wild. Regnault, and after him Aiton, tell us, that it is a native of the South of Europe, and was first cultivated in this country about the year 1573. We have now eight species of balm, two of which are indigenous to England, viz. the common Calamint, *Melissa calamintha*, and the lesser Calamint, *Nepeta*.

The old English herbals, as well as those

of the ancients, are copious on the supposed virtues of this plant, but of which modern practice takes little notice. It is, however, much esteemed by the common people of this country, who take it in the manner of tea, and it is thought to be good in disorders of the head and stomach, as also in hypochondriac and hysterick complaints.

The infusion of this plant is better when made from the green herb, than when dried, which is contrary to the general rule in regard to other plants.

Without being misled by the high encomiums which our herbalists have bestowed on balm, we think it is not duly appreciated at present.

Hoffman contrived a process for obtaining the virtues of this plant, which affords its principles better than any other, and gives two medicines to the physician, unknown before, but of great value. He took a large quantity of the leaves of balm, fresh picked from the stalks, and filling a glass vessel more than half full with them, fixing the stopple carefully in, he put the vessel into a dunghill, where he let it remain three months. At the end of this time he took it out, and found the whole reduced to a kind of poultice. This

being distilled in a retort, yielded first an empyreumatic liquor, but afterwards, when the fire was increased, a black and stinking oil came over, in form of thin *laminæ*, spreading itself over the surface of the liquor. There remained at the bottom of the retort, a black and burnt mass, resembling a coal, which, being thrown on burning charcoal, had very much the smell of the common tobacco.

In this first distillation, no volatile salt appeared; but the empyreumatic liquor being examined, was found very sharp and acrid on the tongue, and of a sharp and pungent smell. Spirit of vitriol being mixed with it, it afforded no effervescence; but on the mixing it with spirit of hartshorn, spirit of urine, or the like, a small ebullition was always produced, though it lasted but a few moments.

This liquor, rectified by a second distillation, affords the volatile salt of balm, which is a fine white and pellucid substance, adhering to the neck of the glass in form of fine white and striated crystal; and a yellow æthereal oil, of a very penetrating smell, and sharp taste, becomes separated by the same rectification. These are both found to be very powerful medicines, the salt as a

sudorific, and the oil as a high cordial, a carminative, and a deobstruent.

In France, the women bruise the young shoots of balm, and make them into cakes with sugar, eggs, and rose-water, which they give to the mother in child-birth, as a strengthener. It has also been thought beneficial to those who are troubled with the palpitation of the heart.

BARLEY.—HORDEUM.

Natural order, Gramina. A genus of the Triandria Digynia class.

THE generic name seems either *horridum*, from *horres*, on account of its long awns or beards ; or, as it was anciently written *fordeum*, rather from φερβω, to feed or nourish, whence φορβη and *forbea*, and changing the *b* into *d*, *fordeum*.* The name is, however, derived by Junius from the Hebrew בַּר.

Barley is evidently a native of a warmer climate than Britain, for in this moist atmosphere it is observed to degenerate, when either neglected or left to a poor soil. Dr. Plott speaks of barley and rye growing in the same ear alternately.

We have the best authority for its having been cultivated in Syria so long back as 3132 years ; therefore that part of the world may be fairly fixed as its native soil.

* Vossius.

“ Ruth gleaned in the field until even, and beat out that she had gleaned ; and it was about an ephah of barley.”

— “ So she kept fast by the maidens of Boaz, to glean unto the end of barley harvest, and of wheat harvest.”

— “ Behold he winnoweth barley to-night in the threshing-floor.” *

In the seventh chapter of the second book of Kings, we learn what proportion barley bore in price to wheaten flour in Samaria, about 892 years B. C.

“ To-morrow, about this time, shall a measure of fine flour be sold for a shekel, and two measures of barley for a shekel.”

We have also very early accounts of this corn having been cultivated in Egypt; and it is supposed to have been used before any other sort of grain.

Artemidorus says, it was the first food which the gods imparted to mankind †. Pliny says, “ In Chalica (an island belonging to the Rhodians) there is one place so fruitful, that the barley, which was sown in proper time, is mowed and committed to the ground a second time, which is ready to cut again with the other corn.”

* Ruth, 1312 B. C. † Plut. Marcello, Livius, lib. 27.

“ The russet field rose high with waving grain ;
 With bended sickles stand the reaper train.
 Here stretch’d in ranks the levell’d swarths are found,
 Sheaves heap’d on sheaves here thicken up the ground.
 With sweeping stroke the mowers strew the lands ;
 The gatherers follow, and collect in bands ;
 And last the children, in whose arms are borne
 (Too short to grieve them) the brown sheaves of corn.
 The rustic monarch of the field desries,
 With silent glee, the heaps around him rise.
 A ready banquet on the turf is laid ;
 Beneath an ample oak’s extended shade
 The victim ox the sturdy youth prepare ;
 The reapers’ due repast, the women’s care.”

POPE’s *Homer*.

Barley (husked), says Pliny, was the most ancient food in old times, as will appear by the ordinary custom of the Athenians, according to the testimony of Menander, as also by the surname given to sword-fencers, who from their allowance or pension of barley were called *Hordearii*, barleymen.* This naturalist farther observes, that of all grains barley is the softest, and least subject to casualties, and produces fruit speedily and profitably.

The meal so highly commended by the Greeks, was prepared from barley in the following manner. It was steeped in water,

* Book xviii. chap. 7.

and then dried for one night; the succeeding day it was parched or fried, and afterwards ground in a mill, or pounded in a mortar; the meal was then mixed with coriander and other seeds, with a small portion of salt: when intended to keep, it was put into new earthen vessels.

It was not until after the Romans had learnt to cultivate wheat, and to make bread, that they gave barley to their cattle. They made barley-meal into balls, which they put down the throats of their horses and asses, after the manner of fattening fowls; which was said to make them strong and lusty.

Barley continued to be the food of the poor, who were not able to procure better provision; and in the Roman camp, as Vegetius has informed us, soldiers who had been guilty of any offence, were fed with barley, instead of bread corn.*

An example may also be found in the second Punic war, when the cohorts who lost their standards had an allowance of barley assigned by Marcellus. And Augustus Cæsar commonly punished the cohorts which gave ground to the enemy, by a decimation, and by allowing them no provision but barley.†

* *De Re Militari*, lib. i. cap. 13. † *Sueton.* chap. 24.

We find that the Romans obtained barley from Egypt and other parts of Africa, and Spain. It was also grown in France, as Columella calls one variety of barley *Galaticum*. There are no means of ascertaining whether barley was cultivated in Britain, when the Romans first discovered this country; but as Cæsar found corn growing on the coast of Kent, it is probable that this species of grain had been obtained from Gaul. It might have been introduced by the Phœnicians in exchange for British tin. The Romans knew perfectly well that corn was as easily obtained in cold as in warm climates; and it is remarked by Pliny, as a phenomenon, that extreme heat and cold have the same effect in producing corn. Thracia is, he says, exceedingly cold, and thereby plentiful in corn: Egypt and other parts of Africa are hot, and yet abound in corn, although not so copiously.

We know from good authorities, that the Romans soon procured corn in England, and were even enabled to send it thence to Italy.

It is not within the limits of this work to go into the detail of the cultivation of corn, which has been so properly attended to by

the Agricultural Society, and so ably dilated on by various writers; but we must not omit an important observation that was made by Pliny, and which seems worthy of being attended to: That barley yields the better groats if it be taken whilst it is somewhat green, rather than when it has arrived at its full ripeness.

“ Lo, how the arable with barley grain
Stands thick, o'er-shadow'd, to the thirsty hind
Transporting prospect! PHILIPS's Cider.

The invention of malt-liquor appears to have originated from the attention which an eastern monarch paid to the health of his army, as both Hippocrates and Xenophon inform us, that Cyrus, having called his soldiers together, exhorted them to drink water wherein parched barley had been steeped, which they called *Maza*. In all probability this was to counteract the bad effects of impure water in warm climates, as Pliny* states, that if water be nitrous, brackish, and bitter, by putting fried barley-meal into it, it will in less than two hours be purified and sweet, and that it may then be drunk with safety; and this, says he, is the reason that barley-meal is generally put in bags and strainers.

* Book xxiv. c. 1.

through which we pass our wines, that they may be refined and drawn the sooner. This information may be serviceable to nautical men, and to those who travel in tropical climes.

In the retreat of the ten thousand, Xenophon thus describes the beer which he found in some Armenian villages : “ Beer (literally barley-wine) in jars, in which the malt or barley itself was in them up to the brim, and with it reeds, some large and others small, without joints. These, when any one was dry, he was to take into his mouth and suck. The liquor was very strong, when unmixed with water, and exceeding pleasant to those who were accustomed to it.”

Diodorus Siculus tells us, that *Osiris*, that is, the Egyptian Bacchus, was the inventor of malt-liquor, as a relief to those countries where vines did not succeed, which is the reason assigned by Herodotus for the Egyptians using it. This was also the liquor used in France, till the time of the Emperor Probus, when vines were first planted there. Pliny says, they called it *Cervisia*, a word probably derived from *Cervoise*, which among the ancient Gauls signified beer*.

* Spelman.

Tacitus mentions a sort of beer in use among the ancient Germans, made of barley or of wheat.

The fertility of the Egyptian soil in grain, and its unfitness for the vine, induced the people of that country to make a sort of wine or ale from barley, which was drunk by those who could not afford to purchase the juice of grapes.*

The principal use of barley in this country, is for making beer; a beverage too well known, from the peasant to the monarch, to require any eulogium on its agreeable and salutary qualities: we shall, therefore, only observe, that it is an European beverage of greater antiquity than wine. It was drunk in Italy, Spain, and in France, before they had learnt the cultivation of the vine, or the making of wine.

Ovid notices a sweet drink used by peasants, which was made by boiling roasted barley-meal in water.

“ The Goddess knocking at the little door,
’Twas open’d by a woman, old and poor,
Who, when she begg’d for water, gave her ale
Brew’d long, but well preserved from being stale.”

The word ale is from the Saxon *eale*;

* Conf. Athenæus, sub finem lib. 1. Arbuthnot.

and beer is a word derived from the Welsh *bir*.

Pope says of beer, as a satire on Welsted :

“ Flow, Welsted ! flow, like thine inspirer beer,
Though stale, not ripe ; though thin, yet never clear ;
So sweetly mawkish, and so smoothly dull ;
Heady, not strong ; and flowing, though not full.”

For some years past the brewing of porter has nearly superseded that of ale in the metropolis; but from whence this modern word is derived, we are unable to conclude; unless it is so called after that useful body of men who are its principal consumers.

The extent to which porter-brewing is carried, in London, may be conceived by the dreadful accident which happened at the brewhouses of Mr. Henry Meux, in the parish of St. Giles. In the month of October 1814, one of the large porter-vats by some accident burst, when, from its enormous bulk, the porter rushed with such an impetuous current, that the adjoining streets resembled rivers that had burst their banks, and the surrounding houses were so instantly filled with this liquor, that the inhabitants, who had no means of escape, were drowned as they sat at breakfast. The vat was nearly 100 feet in circum-

ference, 36 feet over, $22\frac{1}{2}$ feet in height, and contained 3556 barrels, or 128,016 gallons, and caused the death of eight persons by its bursting.

It is generally a custom with brewers to give entertainments in these immense vats when first built, and before being used; large parties are often entertained in them with a dinner or a ball; and it has a curious effect to look down on the party thus situated, which gives the idea of the Lilliputians having possessed themselves of the casks of the people of Brobdignag.

Wine made from malt, when kept to a proper age, has as good a body, and a flavour nearly as agreeable, as the generality of Madeira wines.

The wort of malt is an excellent antiscorbutic. Barley was used by the ancients for many medicinal purposes. Galen, in his book of the Faculties of Simples, says barley is not so heating as wheat, and that it has a little astringent, or cleansing quality. The ladies, in old times, mixed the meal of this corn with honey and vinegar, to take away freckles and other spots on the flesh.

Dr. James says, barley, however prepared,

never heats the body, but moistens or dries, according to its various ways of preparation. Thus, when it is boiled, as in a ptisan, it moistens; when it is torrified, as in polenta, it dries. Barley differs from wheat, as it generates a mild and detergent juice, whereas that of wheat is thick and viscid, and somewhat of an obtrusive quality.

There are various ways of preparing barley, either as simple or medicinal aliment. A cataplasm made of barley-flour and butter, is an anodyne remedy against all kinds of pain. The polenta of barley, says Sim. Paulli, boiled in vinegar, and strained through a linen cloth, frequently mitigates the intolerable pain of the teeth, being used as a collution, or, rather, held for some time in the mouth.

Pearl barley and French barley are only barley freed from the husk by a mill; the distinction between the two being, that the pearl barley is reduced to the size of small-shot, all but the very heart of the grain being ground away.

Barley-water is a decoction of either of these, and is reputed soft and lubricating; a very useful drink in many disorders, and is recommended to be taken with nitre in low

fevers. Its use is of great antiquity, as Hippocrates wrote a whole book on the merits of gruel made of barley.

The French or Scotch barley is principally used to thicken broth and soup.

BASIL.—OCIMUM.

Natural order, Verticillatae. A genus of the Didynamia Gymnospermia class.

FABULOUS history informs us that this plant originated from the death of Ocimus, who first ordained the combats in honour of Pallas, and being killed by Cyclodemas, a famous gladiator, was immediately metamorphosed into the plant which bears his name.

The Greeks, who seldom gave names to plants without an appropriate meaning, called it ὄκιμον ab ὄκυς, *quia citò crescit*, from the speedy springing of the seed, which is usually within three or four days, if the weather be hot and dry. It was also called *Basilicum*, from Βασιλεύς, *rex*, a king, from which the English name is derived, and whence also it is styled a royal plant.

The difficulty of overcoming superstitious prejudices is fully exemplified in this fragrant herb. It was an opinion among the ancients, that if basil was pounded and put

under a stone, it would breed serpents ; from this notion its use was decried ;—and when it was transplanted into our climate, which was found too cold for serpents, these reptiles degenerated into worms and maggots, which, we are told, this vegetable will engender, if it be only chewed, and put into the sun.

Basil was condemned by Chrysippus, more than two hundred years b. c. as being hurtful to the stomach, a suppressor of urine, an enemy to the sight, and a robber of the wits. Diodorus added, that the eating of this plant caused cutaneous insects ; and the Africans were persuaded that no person could survive if he were stung by a scorpion on the same day that he had eaten basil.

We notice the story told by Hollerus of this plant, to shew how far superstition and credulity carried the ill effects of basil. He relates, that an Italian by frequent smelling this herb, bred a scorpion in his brain.

Notwithstanding these impressions were so much against reason, and the decided opinion of the Roman physicians as to the beneficial qualities of the plant, it never became a favourite in medicine, and has been but little used for culinary purposes, although Philistis, Plistonicus, and others, extolled its

virtues, and recommended its use, as strongly as it had been formerly condemned.*

Galen says, basil was eaten by many persons in his time, being corrected with oil and vinegar, and that it was esteemed serviceable to women, to dry up their milk.

The Romans sowed the seeds of this plant with maledictions and ill words, believing that the more it was cursed, the better it would prosper; and when they wished for a crop, they trod it down with their feet, and prayed to the gods that it might not vegetate.†

Lord Bacon says, in his Natural History, "It is strange which is reported, that basil too much exposed to the sun, doth turn into wild thyme: although these two herbs seem to have small affinity; but basil is almost the only pot-herb, that hath fat and succulent leaves; which oiliness if it be drawn forth by the sun, it is likely it will make a very great change."‡

Gerard describes six species of basil in his Herbal, that were cultivated in England prior to 1597; and he agrees with Simeon

* Plin. book xx. chap. 12 and 13.

† Pliny.

‡ Century 6.

Zethy, that “the smell of this plant is good for the heart and for the head: that the seede cureth the infirmities of the heart, taketh away sorrowfulnesse which commeth of melancholie, and maketh a man merrie and glad.”

Basil leaves a grateful smell when stroked with the hand; and it was said that the hand of a fair lady made it thrive. Farmers who had learnt to compliment in the reigns of Queen Mary and Elizabeth, planted it in pots to offer to their landladies, or others who visited the farm. It is thus noticed by Tusser:

“ Fine Basil desireth it may be hir lot
to grow as a gilleflower, trim in a pot:
That ladies and gentils, for whom you do serve,
may help her as needeth, poore life to preserue.”

Schroder, and other medical writers of latter days, give it the virtue of cleansing the lungs of phlegm.

It is used as an ingredient in the *aqua bryoniae composita*, or hysterick water.

Aiton mentions thirteen species of basil, now cultivated in this country, the earliest of which was in 1548. It is a native of the South of Europe, as well as the East Indies,

and some parts of Africa ; and is found also, growing naturally, in Persia.

The French are now so partial to the flavour and qualities of this plant, that its leaves enter into the composition of almost all their soups and sauces.

BEAN.—FABA.

Natural order, Papilionaceæ. A genus of the Diadelphia Decandria class.

THE Bean was called in Greek *Kūμος*, by the Falisci, a people of Hetruria (now Tuscany), *Haba*; whence the name *Faba* seems to be taken. *Martinius* derives the word from *παῖω*, to feed; as if it were *Paba*; *Isidorus* from *φαγω*, to eat.

The flowers of this pulse, which are of the butterfly kind, emit a most agreeable perfume.

—“ Long let us walk
 Where the breeze blows from yon extended field
 Of blossom'd beans. Arabia cannot boast
 A fuller gale of joy than liberal thence
 Breathes through the sense, and takes the ravish'd soul.”

THOMSON.

Of all the pulse kind, this held the first rank in ancient times. We find the Athenians used beans sodden, in their feasts dedicated to Apollo; and the Romans presented

beans as an oblation in their solemn sacrifice called *Fabaria*, a festival held in honour of *Carna*, wife of *Janus*. Pliny informs us, that they offered cakes made of bean meal unto certain gods and goddesses, in these ancient rites and ceremonies. Lempriere states, that bacon was added to the beans in the offerings to *Carna*, not so much to gratify the palate of the goddess, as to represent the simplicity of their ancestors.

One of the most noble and powerful families of Rome derived the name of *Fabii* from some of their ancestors having cultivated the bean called *Faba*.

The meal of beans is the heaviest made from pulse, and was called in Latin *lomentum*. This was mingled with *frumentic* corn, whole, and so eaten by the ancients; but they sometimes, by way of having a dainty, bruised it first: it was considered a strong food, and was generally eaten with gruel or pottage. It was thought to dull the senses and understanding, and to cause troublesome dreams. Pythagoras expressly forbade beans to be eaten by his disciples, because he supposed them to have been produced from the same putrid matter from which, at the creation of the world, man was formed. The Romans at

one time believed, that the souls of such as were departed, resided in beans; therefore they were eaten at funerals and obsequies of the dead.

Varro relates, that the great priests or sacrificers, called *Flamines*, abstained from beans on this account, as also from a supposition that certain letters or characters were to be seen in the flowers, that indicated heaviness and signs of death. Clemens Alexandrinus attributes the abstinence from beans to the opinion that they occasioned sterility; which is confirmed by Theophrastus, who extends the effects even to the plants. Cicero suggests another reason for this abstinence, viz. that beans are great enemies to tranquillity of mind; for which reason Amphiaraus is said to have abstained from them, even before Pythagoras, that he might enjoy a clearer divination by his dreams.

The Egyptian priests held it a crime to look at beans, judging the very sight unclean. The Flamen Dialis was not permitted even to mention the name. Lucian introduces a philosopher in hell saying, that to eat beans, and to eat our father's head, were equal crimes.

The ancients made use of beans in gathering the votes of the people, and for electing the magistrates. A white bean signified ab-solution, and a black one condemnation. From this practice, we imagine, was derived the plan of black-balling obnoxious persons.

The Roman husbandmen had a religious ceremony respecting this pulse, somewhat remarkable; when they sowed corn of any kind, they took care to bring some beans from the field, for good luck's sake, superstitiously thinking that by such means their corn would return home again to them; these beans were then called *Refrinæ* or *Referinæ*. The Romans carried their superstition even farther, for they thought that beans mixed with goods offered for sale at the ports, would infallibly bring good luck to the seller.

Columella notices them in his time as food for the peasants only :—

“ And herbs they mix with beans for vulgar fare.”

Pliny states that the sowing of beans is equal to manure for land, and enriches it exceedingly; and that in the vicinity of Macedonia and Thessaly, the custom was to plough them into the ground just as they began to bloom. This author adds,

that beans grew spontaneously in most places without sowing; particularly in certain islands lying within the northern ocean; from whence they have derived the name of *Fabariae*. They grew wild also throughout Mauritania (now Morocco) in Africa; but these Pliny characterizes as so hard and tough, that they could not be boiled tender.

From Mazagan (a settlement of the Portuguese, on the coast of Morocco), we have obtained the bean so called, and it is by far the best sort for an early crop. It may be observed of seeds in general, that those brought from warm climates will fruit earlier than those of cold countries. It must therefore be desirable to have the seeds constantly renewed at intervals of a few years, since the bean will naturally become a later variety, as it grows accustomed to the soil and climate of this kingdom.

Gerard states, that the garden bean is the same in all respects as the field bean, the one having been improved only by the fertility of the soil:—we perfectly coincide in this opinion, as the ancient authors mention but one kind of the bean called *Faba*.

Virgil says, that if beans are soaked in lees, or dregs of oil and nitre, before they are

planted, they will produce seeds of a far greater size. Other ancient authors state, that if they are steeped for three days in water mixed with urine, they grow more rapidly, and the seed will be larger.

Beans were used medicinally by the ancients: when bruised and boiled with garlic they were said to cure coughs that were thought past other remedy.

The meal or flour of beans, called *lomentum* by the Romans, was a celebrated cosmetic with the ladies, in former times, as it was thought to possess the virtue of smoothing the skin and taking away wrinkles.

Beans are now seldom, if ever, used as food, in this improved country, in their dried state; but when sent to table young, they are generally admired and esteemed a proper vegetable with bacon.

The ancients, with Dodonæus, Casp. Hoffmann, and others of the moderns, tell us that beans are flatulent, and the greener they are, the more flatulent, and consequently the more difficult of concoction: "However we," says Ray, "do not find this to be true, though we frequently feed upon beans in the summer: nor do we approve of the opinion of Dodonæus, who prefers the old and dry

beans before the green ones, because he thinks them less flatulent ; but with Tragus, leave them to our horses : nor do I see why they should not fatten men as well as swine, and other animals."

Dr. Mundy, in his Treatise on Foods, says, that he knew a peasant, who in a great dearth of provisions fed his children with nothing but boiled beans ; and yet you would hardly see boys of a better colour or habit of body ; which proves, that dry beans afford a copious nutriment, when the stomach is once accustomed to bear them.

Dodonæus says, that beans, with their skins, or husks, are neither slow, nor very quick, in passing through the body ; but that without their husks they are binding. We agree in this opinion, knowing that in wheat, the flour, separated from the bran, binds the more powerfully, and that the bran is deterotive, and promotes the passage of the flour : hence brown bread is the most wholesome, particularly to persons of feverish habits. Dr. James says, " we are of opinion, with Tragus, that the young beans are wholesome aliment, and generate good juice."

The prevailing opinion is, that beans are a flatulent and coarse food, better suited to

the laborious, than the sedentary class of society. Mr. Boyle has several experiments of beans, treated pneumatically, to shew the great plenty of air they afford, on which their flatulency depends. The expansion of a bean, says this author, is found so considerable in growing, that it is capable of raising a plug clogged with an hundred pounds weight.

The green pods boiled, after the beans are taken out, is a dish that many people prefer to the beans; they should be served with parsley and butter. The young leaves of beans, boiled in broth, are esteemed highly emollient.

The varieties of beans recommended are, the early Aldridge, early Mazagan, dwarf fan, green Genoa, sword, long-podded, and the white-blossomed Windsor.

We have found it an excellent plan, in procuring late beans, to cut down the stalks after the crop is gathered for the kitchen; they then soon sprout up again, and, if showery weather succeeds, yield a better supply than is obtained by late planting. In the summer of 1820, the author had some Windsor beans so much blighted, that they produced but little more than the original

seed; but when cut down, they yielded an excellent crop in the month of November.

This species of pulse is extremely prolific when planted in suitable soil. A single Heligoland horse-bean, planted in the garden of Beaulieu poor-house, in the year 1821, produced 126 pods, which contained 399 good beans fit for seed; and had the plant not been blown down by the wind in the midst of its bloom, there is reason to suppose it would have produced nearly double the quantity.

Field beans are cultivated exclusively for horses.

Beans make one of the finest of all baits for fish, if prepared in the following manner: Steep them in warm water for about six hours; then boil them in river-water in a new earthen pot, glazed in the inside; when about half boiled, to a quart of beans add two ounces of honey, and about a grain of musk; after which let them boil for a short time. Select a clear part of the water, and throw in a few of these beans early in the morning, and again at evening, for two or three days, which will draw the fish together, and they may be taken in a casting net in great numbers.

The ashes of bean-stalks make good and clear glass.

KIDNEY BEAN.—PHASEOLUS.

A leguminous plant. In Botany it is arranged in the same class and order as the bean Faba.

THIS pulse is generally, but improperly called French bean, for the old French name of this pulse, *Fèves de Rome*, evidently proves it not to have been a native of France. We also find, that it was called the Roman bean in our language, about the time of Queen Elizabeth. Gerard gives it also the name of Sperage bean, and says it is called *Faselles*, or long peason. The Dutch at that time (1596) called them *Turcks-boonen*, viz. Turk's bean. From thence, but more particularly from the account of the great Roman naturalist, we may conclude this excellent and wholesome vegetable is a native of the eastern extremity of Europe, or that part of Asia now belonging to the Turks; for Pliny in the 7th chapter of his 18th book, mentions these beans, and says, those of Sesama

and Iris are red, resembling blood. He also in his 12th chapter of the same book calls them *Phaseoli*, and says the pod is to be eaten with the seed: from this laconic notice we may assume that they were but little esteemed at that time in Italy, where lupines were then so much admired as food.

The French name of *Haricot* for this pulse originated from their being much used by their cooks in the composition of a dish so called.

The English name of Kidney-bean was given on account of the seed being somewhat of a kidney shape.

We conceive it probable, that these beans were first introduced to this country from the Netherlands about the year 1509, when gardening first began to be attended to in England; the white Dutch kidney-bean having been the earliest sort known in this kingdom.

Gerard mentions a considerable variety that was cultivated in England in his time, and says, "The fruit and pods of kidney-beans boyled togither before they be ripe, and buttered, and so eaten with their pods, are exceeding delicate meate, and do not ingender winde as the other pulse doe." This medical herba-

list adds, “they are gently laxative, and in-gender good bloode.”

The dwarf-beans are the most generally cultivated at present, as the running varieties require tall sticks, which add considerably to the expense of cultivation. But of all the varieties none exceed the scarlet runners in point of agreeable flavour and tenderness; they are also the most productive, and afford a succession of pods until checked by the frost. It is rather remarkable, that although this variety has been cultivated in England since 1633, yet there still exists a prejudice against these beans; some, on account of their size, consider them old. The author remembers their being planted in many parts of the country, merely as an ornament to cover walls and to form arbours, without an idea of cooking the pods for the table.

The French carried this prejudice to an extent equal to the superstition of the ancients respecting the bean, *Faba*. Some years back a lady of our acquaintance took some seeds of the scarlet runners to Jamaica, and by planting them in her garden on the mountains, they were brought to tolerable perfection; but her gardener, who was an old

Frenchman, would not by any persuasion allow them to be eaten, on account of the scarlet or blood colour of the blossom. The family thought it more prudent to deprive themselves of the promised delicacy than to lose a valuable servant, whose superstition prohibited him from serving a master who could eat a vegetable producing (as he styled it) a bloody flower.

The dwarf kidney-bean being easily forced in a hot-bed, and growing freely in the house, now forms an important and profitable article to the market-gardener, and enables the vegetable epicurean to indulge his appetite with these beans nearly throughout the whole year. It is one of the least hurtful luxuries of the table; and nothing adds more to the elegant arrangement of a dinner than early and rare vegetables.

Kidney-beans are preserved in salt for winter-use, and the young pods of the scarlet runners make an excellent pickle.

The white kind are used in the ripe and dry state by foreign cooks in their haricots, particularly in the neighbourhood of Rome, where its cultivation forms an important article, the seed affording great part of their

Lent food, in the shape of haricot, fageoli, and caravansas.

The seed of the large kidney-bean, *fève haricot*, sliced and stewed in milk, is a frequent dish at the farm-houses in Flanders.

BEET.—BETA.

Natural order, Holorai. A genus of the Pentandria Digynia class.

IT takes its name from the shape of its seed vessel, which, when it swells with seed, has the form of the letter so called in the Greek alphabet.

It appears to be a native of Sicily, as the Greeks, according to Pliny, had as well as the black, a white beet, which also they called Sicilian beet.

The Grecians held this root in great esteem, as it was their custom to offer it, on silver, to Apollo in his temple at Delphos. They used also to cut the leaves in preference to lettuce, and observed the method of laying a small weight on the plant, to make it cabbage.

Pliny says, of all garden herbs, beets are the lightest roots; that they are eaten (as well as the leaves) with lentils and beans, and the best way to eat them is with mustard,

&c., to give a taste to their dull flatness. The seed, says this author, has a strange and wonderful quality above the rest, for it will not all come up in one year, but some in the first, others in the second, and the rest in the third year.

The Roman physicians held the roots more hurtful than the leaves.

The beet was first cultivated in this country in the year 1548, a period when many valuable plants were introduced, to gratify a luxurious monarch. *Cicla*, the white variety, was brought to England from Portugal, in 1570. It is observed, that the larger the roots grow, the more tender they will be; and the deeper their colour, the more they are esteemed. The roots of the beet are either baked or boiled, and eaten with salad; they also make an agreeable pickle. They are said, however, to be prejudicial to the stomach, and to afford little nourishment. The juice both of the roots and leaves is said to be a powerful errhine, occasioning a copious discharge of mucus, and thereby greatly relieving the head-ache.

From the roots of this plant, sugar has been extracted; by boiling them when taken out of the earth, slicing them when cold,

and afterwards pressing out the juice, which is filtered, evaporated, and the sugar procured by crystallization. The process at length, may be found in the New Annual Register for 1800, and in the 18th volume of the Transactions of the Society for the Encouragement of Arts, &c. in London.

The most successful manufacturer of sugar from the beet-root was M. Achard of Berlin, who pursued the process altogether in a large way, and so satisfactorily, that a reward was bestowed upon him by the Prussian government for his elaborate experiments. It was expected that this process would enable Europe to supply itself with sugar from its own soil, and to be no longer dependent on the West Indies; but this project was for many years relinquished, until necessity compelled the French to renew it, when Napoleon adopted the policy of prohibiting the importation of all colonial produce. The French government then gave large premiums to the greatest growers of beet, and encouraged the making sugar from this root, and in which they succeeded so far as to obtain a good sugar; but it was done at an expense that could only insure its duration so long as

his power could prevent the introduction of foreign sugar, which could be sold at more moderate prices.

The beet is one of the five emollient herbs, but the root is more frequently used to garnish dishes, than for any medicinal purpose.

BORAGE.—BORAGO.

Natural order, Asperifoliæ. A genus of the Pentandria Monogynia class.

THE name is derived from *cor* and *ago*, on account of its supposed cordial qualities.

According to Pliny, the ancient Romans called it *Buglossus*, from the Greek Βούλωσσος, because the leaf is like an ox-tongue. It was also called *Euphrosynon*; for when put into a cup of wine, it made those who drank of it merry.

It is said to have been originally brought from Aleppo; but it grows so freely in this country, that many authors deem it an indigenous plant. Parkinson states, that it grew in Kent.

The whole herb is succulent and very mucilaginous, having a peculiarly faint smell when bruised. Its flowers are of the number of the four cordial ones of the shops, and it has been recommended as a medicine of great efficacy in malignant and pestilential fevers,

and against the bite of poisonous animals. It has always been esteemed as an excellent cooling cordial in all febrile cases; and may be justly regarded as a proper simple to be used in an over-heated state of the blood: it is generally administered in decoctions and infusions with other cooling medicines.

Coles, and M. Valmont Bomare, say, these flowers have no virtue when dry, therefore it is better, in the winter, to use the roots, which, being fresh, possess all the qualities of the blossoms.

Water distilled from both the leaves and flowers of this plant, has been formerly kept in the shops, as well as a conserve of the blossoms; but these are very little regarded in modern practice, especially in England, where most diseases (says Brown) proceed rather from inaction and the viscosity of the juices.

By the experiments of M. Margraaf, in 1747, it appears, that the juice of this plant affords a true nitre. The clarified juice of borage evaporated by a water-bath, in a consistency of thick honey, becomes saponaceous, and will dissolve in part in spirit of wine. The juice of the borage, distilled at a naked fire, bloats itself out considerably, and yields an insipid phlegm, which is soon followed by

an alkaline volatile spirit, very penetrating, and then an empyreumatic, fetid, and heavy oil; there remains a very light coal, which is reduced with some difficulty into ashes. These give an alkali, such as the most part of vegetables furnish: the coal itself, before the incineration, furnishes a great deal of nitre, some little marine salt, and an alkaline salt of a deliquescent nature. M. Bucquet says, it is clear, that of all these principles, the juice of the borage contains only the phlegm, the oily part, the nitre, the marine salt, the fixed alkali, and the earthy part. As to the volatile alkali, it is the produce of the fire, which has formed it at the expense of the fixed alkali, and of the oil; because this produce, though very volatile, only passes after the phlegm, and when the decomposition is already advanced; for, operate how you may to separate the salts contained in the borage, you will never find volatile alkali.

This plant divides thick and vulgar humours, attenuates the blood, re-establishes secretions, and excretions, and is useful in all illnesses where it is essential to avoid hot remedies; as in pleurisy, peripneumony, &c. It is esteemed diuretic, emollient, and expectorant.

Lord Bacon observes, that “the leaf of the borage hath an excellent spirit, to repress the fuliginous vapour of dusky melancholy, and so to cure madness: But nevertheless, if the leaf be infused long, it yieldeth forth but a raw substance, of no virtue; but if the borage stay a small time, and be often changed with fresh, it will make a sovereign drink for melancholy passions.”

There is an old verse on this plant, which says,

“ *Ego Borago gaudia semper ago,*”

which has been thus paraphrased :

“ *I Borage bring courage.*”

Gerard informs us, that in Queen Elizabeth's time, both the leaves and flowers of this plant were eaten in salad, “to exhilarate and make the mind glad.” There is, says he, also many things made of them; “vsed euerywhere for the comfort of the heart, for the driving away of sorrowe, and increasing the joie of the mind. Sirrupe made of the flowers of borage, comforteth the heart, purgeth melancholie, quieteth the phrenticke or lunaticke person. The leaves eaten raw do ingender good bloode, and when boiled in honey and water, they cure hoarseness.”

With all the advantages which this herb is said to possess, it is now nearly neglected, and but seldom used in England either in salads or as a pot-herb ; it is principally cultivated in our gardens to make cool tankards, which are a pleasant and wholesome summer drink.

BURNET.—POTERIUM.

Natural order, Miscellaneæ. A genus of the Monæcia Polyandria class.

THE ancient name of this plant cannot be fixed with any degree of certainty; but it is thought by the best etymological herbalists, that we have been able to consult, that it is the plant which the Greeks called *Πυμπίνελε*, and that it is likewise the *Sideritis Secunda* of Dioscorides. It has been called in Latin, *Pimpinella*, *Pempinula*, and *Peponella*, from the likeness of the scent to that of melons or pompions; while others give the same name to some species of saxifrage. Old medical writers called it *Sorbastrella* and *Sanguinaria*, but mostly *Sanguisorba*, *quod sanguineos fluxus sistat*, as it was supposed to stop fluxes of blood. Some of the ancient botanists called it *Bipinella* or *Bipenula*, from the leaves being placed opposite each other like wings.

The origin of the English name must be

left to conjecture ; the oblong spike of its flowers forms, in some degree, a miniature resemblance of the bur of the dock ; and from thence it may probably have been derived.

The common burnet, *Poterium Sanguisorba*, is an indigenous perennial plant of England, and is found growing on chalky lands and heathy commons. We find it was cultivated in our gardens as long back as we can trace any other herb or vegetable with certainty. Gerard says, " it is pleasant to be eaten in sallads, in which it is thought to make the heart merry and glad, as also being put into wine, to which it yeeldeth a certaine grace in the drinking."

Our forefathers seem to have been as anxious to have herbs added to their wine, as the present generation are desirous to obtain it pure.

Coles says, (in 1657,) " Burnet is a friend to the heart, liver, and other principall parts of a man's body : two or three of the stalks with leaves put into a cup of wine, especially French wine, as all know, give a wonderful fine relish to it, and besides is a great means to quicken the spirits, refresh the heart, and make it merry, driving away melancholy."

It is still accounted cordial and sudorific, and on that account is often put into cool tankards.

We have now several species and many varieties of burnet in our botanical gardens; but it is seldom used for culinary purposes.

CABBAGE.—BRASSICA.

Natural order, Cruciferæ. A genus of the Tetrodynamia Siliquosa class.

THEOPHRASTUS and the earlier Greek authors called this vegetable 'Πάφαρος, *Raphanus*, from the seed bearing a resemblance to that of the radish. It was named by later writers Κράμβη, and *attice*, Κοραμβη, or Κοράμβη, as it was thought to injure the eye-sight, which is signified by Columella in these words, *oculis inimica Coramble*; but he afterwards contradicts himself, and states that it is good for dim eyes.

The Roman name, *Brassica*, came, as is supposed, from *præseco*, because it was cut off from the stalk: it was also called *Caulis* in Latin, on account of the goodness of its stalks, and from which the English name Cole, Col-wort, or Colewort, is derived. The word Cabbage, by which all the varieties of this plant are now improperly called, means the firm head or ball that is formed by the leaves turn-

ing close over each other; from that circumstance we say the cole has cabbaged, the lettuce has cabbaged, or the tailor has cabbaged.

“Your tailor, instead of shreds, cabbages whole yards of cloth*.”

From thence arose the cant word applied to tailors, who formerly worked at the private houses of their customers, where they were often accused of cabbaging; which means the rolling up pieces of cloth, instead of the list and shreds, which they claim as their due.

The Greeks held the cabbage in great esteem, and their fables deduce its origin from the father of their gods; for they inform us, that Jupiter labouring to explain two oracles which contradicted each other, perspired, and from this divine perspiration the colewort sprang.

The inference to be drawn from this fable is, that they considered it a plant which had been brought to its state of perfection by cultivation and the sweat of the brow.

The most ancient Greek authors mention three kinds of cole, the crisped or ruffed, which they called *Selinas* or *Selinoides*, from its

* Arbuthnot's History of John Bull.

resemblance to parsley; the second was called *Lea*, and the third *Corambe* *.

This vegetable was so highly regarded by the ancients, that Chrysippus and Dieuches, two physicians, each wrote books on the properties of this plant, as well as Pythagoras and Cato, the latter of whom in later times amply set forth the praises of this pot-herb.

It is related, that the ancient Romans, having expelled physicians out of their territories, preserved their health for six hundred years, and soothed their infirmities by using and applying this vegetable as their only medicine in every disease.

The verse of Columella informs us that he considered it a universal pot-herb.

“ That herb, which o'er the whole terrestrial globe
Doth flourish, and in great abundance yields
To low plebeian, and the haughty king,
In winter, cabbage ; and green sprouts in spring.”

Pliny, in speaking of the spring sprouts of cole, says, “ Pleasant and sweet as these crops were thought by other men, yet Apicius (that notable glutton) loathed them, and by his example Drusus Cæsar held them in no

* Plin. book xx. c. 19.

esteem, but thought them a base and homely food; for which nice and dainty tooth of his," says this author, "he was well checked and stmented by his father, Tiberius the emperor. I dwell long on this vegetable," says Pliny, "because it is in so great request in the kitchen and among our riotous gluttons."

We find that the Greeks as well as the Romans esteemed it good to be eaten raw, to prevent the effects of excessive indulgence in wine: it was also thought to clear the brains of the intoxicated, and make them sober.

It is observed by Pliny, that as coleworts may be cut at all times of the year for our use, so may they be sown and set all the year through; and yet, says this author, the most appropriate season is after the autumnal equinox. He adds, after the first cutting, they yield abundance of delicate tops; so there is no herb in that regard so productive, until, in the end, its own fertility produces its death. We learn from this naturalist their manner of cultivating them, as well as from whence the Romans obtained these useful plants. Many of the ancients, when they transplanted coles, put sea-weeds under the roots, or else nitre powdered, as much as they could take up

with three fingers, imagining that they would the sooner come to maturity ; others threw trefoil and nitre mixed upon the leaves for the same purpose ; it was also thought to make them boil green.

Cabbage will not, at the present day, bring a price to enable the grower to use nitre ; but we have often been surprised that sea-weed should not have been more used on the coast as a garden manure, when the advantage of the saline particles is so generally acknowledged.

The ancients manured their land with asses dung, where they intended to plant coles. " If you would have very fine coleworts, both for sweet taste and for great cabbage," observes Pliny, " first let the seed be sown in ground thoroughly digged more than once or twice, and well manured ; secondly, you must cut off the tender spring and young stalks that seem to put out far from the ground, and such as run too high ; thirdly, you must raise mould or manure up to them, so that there may be no more above the ground than the very top :" these kinds of coles, he says, are justly called *Tritiana*, for the three-fold care about them. " There are," continues he, " many kinds of coleworts in Rome, such

as that of Cumes, which bears leaves spreading flat along the ground, and opening in the head; those of Aricia are tall, and send forth numerous buds. The colewort Pompeianum, so called from the town Pompeii, also grows high, and sends out many tender sprouts." The coles of Bruzze, or Calabria, like the winter best, and are nourished by the hard season; their leaves are described as being very large, their stalks small, and their taste acrid. The Sabellian coles, with curled and ruffed leaves, are mentioned as having a small stem, which supports heads of a wonderful size: these were reputed the sweetest.

"It is not long," says the same author, "since we have procured a kind of cabbage-cole from the vale of Aricia with an exceedingly great head and an infinite number of leaves, which gather round and close together." These he calls *Lacuturres*, from the place whence they came; he adds, there are some coles, which stretch out into a round shape, others extend in breadth, and are very full of fleshy brawns; some are described as bearing a head twelve inches thick, and yet it was observed, that none put forth more tender buds than these. It was noticed that

all the varieties eat sweeter for being touched with the frost. With all the veneration we have for the great naturalist of Rome, we cannot agree with him when he states, that the seeds of a very old cabbage will produce turnips, and that the seeds also of an old turnip will produce coleworts.* The Romans were not aware that plants so nearly affined would mix their species by impregnation, and produce mongrel plants. This was unfortunately not known in England until it had ruined and broke the heart of poor Ball, the Brentford gardener ; for which see *Pomarium Britannicum*.†

We find that the Romans planted the sprouts as well as the young plants. Columella tells us that the latter should be removed when they have attained six leaves. The ancients often steeped them in oil and salt before they put them over the fire to boil; and it was observed by them, that if any brass pot or kettle was ever so much furred, and however hard to get off, if a cabbage was boiled in it, the fur would peel from the sides without difficulty.

It is also related that a physician, having

* Book xix. chap. 10. † P. 373.

a mess of coleworts upon his table before him, and being suddenly sent for to visit a patient, he covered, at his departure, his dish with another, and found it at his return bedewed with moisture: observing from this circumstance, that the extraction of humidity was very easy, he bent his study so far that way, as to give being to the art of distillation.

The ancients were firmly persuaded that there was a sympathy in plants, as well as in animals. "The vine, says one of their authors, by a secret antipathy in nature, especially avoids the cabbage, if it has room to decline from it; but in case it cannot shift away, it dies for very grief." Pliny* says, the coleworts and the vine have so mortal a hatred to each other, that if a vine stand near a colewort, it will be sensibly perceived that the vine shrinks away from it; and yet this wort, which causes the vine thus to retire and die, if it chance to grow near *origan*, *margiram*, or *cyclamen* sowbread, will soon wither and die in its turn. The cause is evident, for where two plants are neighboured that require the same juices to support them,

* Book xxiv. chap. 1.

the weaker must give way to the one that has the greater power to suck up the nutritious moisture.

Ancient authors have handed down to us the various uses, which they made of this plant in medicine, some of which we notice as a matter of curiosity, more than with a view of recommending these experiments.

The Greeks, as well as the Romans, used the juice of coleworts with honey as an eye-salve; they also made a liniment of this plant, which was used to assuage the swellings of the glands, as also for the hard swellings of women's breasts. A liniment was also made of cabbage and brimstone, which was used to bring bruises to their natural colour, or prevent their turning black.

Philistian recommended the juice with goats' milk, salt, and honey, for the cramp, or stiff necks.

Apollodorus says, that either the seed or the juice of this plant, taken in drink, is a good remedy for those who have eaten poisonous mushrooms.

Hippocrates recommended this vegetable to mothers who were nurses.

Cato advises coleworts to be stamped raw with vinegar, honey, rue, mint, and the

roots of laser, as a cure for the head-ache, and many other complaints, not even omitting the gout.

Erasistratus, and all his school, resounded again (says Pliny) with the praises of cole-wort, and averred, that there was nothing in the world better for the stomach, and nothing more wholesome for the sinews; they, therefore, prescribed it for the palsy, and all tremblings of the limbs, and those that retch up blood.

It was observed by the ancients, that this vegetable was light of digestion, and that it clarified all the senses, when ordinarily eaten.

Gerard is the oldest English author who has written fully on this useful vegetable; he mentions the white cabbage cole, the red cabbage cole, the curled garden cole: the Savoie cole is, he says, numbered among the headed coleworts or cabbages: he notices the curdled Savoy, but says the "Swolen cole-wort of all others is the strangest; and which I received from a worshipfull marchant of London, Master Nicholas Lete, who brought the seed out of France; who is greatly in love with rare and faire flowers and plants; for which he doth carefully send into Syria, having a servant there at Alepo, and in many

other countries; for the which myself and likewise the whole lande are much bound vnto." The same author says, "Rape cole is another variety; they were called in Latin *Caulo-rapum* and *Rapo-caulis*, participating of two plants, the coleworts and turnips, from whence they derive their name. They grow in Italy, Spain, and some places in Germanie, from whence I have received seeds for my garden." "They must," says he, "be carefully set and sown as musk melons and cucumbers."

This variety has now become one of our hardiest field plants.

The principal cabbages now cultivated in this country are, the early Battersea, early Dwarf, early York, imperial Penton, Sugar-loaf, Drum-head, red Dutch, purple Turnip, Savoy, green Savoy, and yellow Savoy. The German cabbage is grown to so great a size in Holland, that a single head often weighs forty pounds, and remains perfectly sweet and tender.

CAULIFLOWER.—*BRASSICA FLORIDA.*

THIS plant was first called Cole florie and Colieflorie, and is said to have been derived

from *caulis* a stalk, and *fero* to bear. Gerard says, “ The white cabbage is best next to the cole floure ; yet Cato doth chiefly commend the russet cole, but he knew neither the whites, nor the cole floure, for if he had, his censure had been otherwise.” But we find it noticed by the Roman herbalist of later days; who observes, that of all kinds of coleworts, the sweetest and pleasantest to the taste is the cole florie, although of no value in medicine, and unwholesome, as being hard of digestion, and an enemy to the kidneys.

Pierre Pompes says, cauliflower “ comes to us in Paris, by way of Marseilles, from the Isle of Cyprus, which is the only place I know of where it seeds.” From this account it would appear, that cauliflowers were not much cultivated in France in 1694, when his work was published ; and the French have at present no distinct name for this vegetable, but call it *Chou fleur*, viz. cabbage flower.

Cauliflowers are now cultivated in this country with such care and success, that they exceed, in goodness and magnitude, all in Europe. Our gardeners furnish us with an early and a late variety, both of which are much esteemed at table, either plain boiled

and served with meat, or when dressed with sauce after the French fashion. It also makes a favourite pickle.

BROCOLI.—*BRASSICA BOTRYTIS CYMOSA.*

THIS plant appears to be an accidental mixture of the common cabbage and the cauliflower; and it is said, that it grows in no part of the world to such perfection, as in the neighbourhood of Portsmouth. Our varieties of this vegetable are, the Cape, early purple, late purple, early white, late white, and the Siberian. Brocoli occupies a large space in the garden, where it requires near a year to perfect its heads; but repays us for the time and space by its early arrival in the spring.

SEA-KALE.—*CORAMBLE MARITIMA.*

“ Now let sea cabbage also come,
Though, to the eyes a foe, it blunts the sight.”

COLUMELLA.

KALE, or agreeably to our oldest writers, Sea Colewort, is an excellent vegetable, indigenous to our southern shores.

Valmount Bomare, calls it *Chou Marin sauvage d'Angleterre*.

Gerard observes, in his Herbal, that "The sea colewort groweth naturally vpon the bayche and brimmes of the sea, where there is no earth to be seene, but sand and rowling pebble stones. I found it growing between Whystable and the Isle of Thanet, neere the brincke of the sea; and in many places neare to Colchester, and elsewhere by the sea-side."

It is often found, at the present time, growing out of the crevices of our highest cliffs, and this is observed to be the most delicate; but it is only procured with the greatest danger, by boys who let themselves down by means of a rope, which is lowered or shifted by others standing on the top, the very sight of which makes the most indifferent observer tremble, while it excites the wonder of others, that so great a risk should be ventured for so small a reward as a dish of this marine vegetable.

Sea kale is now cultivated in all good gardens, and forms a profitable article with market-gardeners; as, when forced, it meets a ready sale, and bears a high price in the metropolis.

It appears, that the Romans had not attempted to raise this vegetable in their gardens in the time of Pliny, who calls it *Halmyridia*, and says it grows only on the sea-coast. He observes, provision is made of them to serve in long voyages at sea, for as soon as they are cut up, they are put into barrels where oil has lately been kept, and then stopped up close, that no air come to them.

The different opinions as to the qualities of cabbage in general, are as various as the authors are numerous; we notice these contradictory opinions without falling into the enthusiasm of one party, or the prejudice of others, as experience teaches us, that the same vegetable diet which affords medicine to one constitution, may be venomous to another, and that to preserve our health, we should change our diet with our habits, as we change our garments with the seasons.

All the species of cabbage are now generally supposed to be hard of digestion, to afford little nourishment, and to produce flatulencies. They tend strongly to putrefaction, and run into this state sooner than almost any other vegetable; when putrefied, their smell is likewise the most offensive,

greatly resembling that of putrid animal substance. They are now out of use as medicine, although so much recommended by ancient writers. Etmuller says, they have much nitre in their composition, which makes them diuretic. The authors of the *Schola Salernitana* make them of very different qualities; and will have them both to astringe and relax the bowels; and say also, they prevent the intoxication occasioned by spirituous liquors.

Bartholine extols cabbage in these words: "The common cabbage of the country people is justly preferable to other pot-herbs, since, both raw and boiled, it is possessed of such salutary qualities, as to prevent occasion for the medicines used in the shops. For this reason, when a certain foreign physician came into Denmark with a design to settle, and saw the gardens of the country people so well stocked with cabbage, he, with good reason, prognosticated small encouragement for himself in that part of the world. It keeps the stomach in an easy and soluble state; and a decoction of the tops of its tender shoots discharges such an incredible quantity of bile and phlegm, that no medicine proves a quicker, a safer, or a more effi-

cacious purge, hellebore and scammony not excepted."*

Hoffman says, the common red cabbage is evidently possessed of a medical quality; and abounds with a juice, which, by its nitrous, sweet, emollient, laxative, aperitive, attenuating, and stimulating qualities, promotes those excretions which are absolutely necessary to the preservation of health. For this, it is not only a preservative against diseases, especially of the chronical kind, but also contributes very considerably to their cure.

The juice of cabbage is of such a nature, says Dr. James, as not only to afford a sufficient supply of nourishment to the body, but also to correct the aerid salts of the juices, allay the acrimony of the blood, cleanse the intestines, and scour the kidneys. For this reason cabbage is highly salutary in disorders of the breast, if baked in a close vessel in an oven, adding sugar or honey to it, after it is taken out; for by this means it will, in the space of half an hour, become a jelly, or thick juice, which, used as a lambative, is of singular efficacy in dry coughs, &c.

* Lib. de Medicina Danorum Domest. Dissert. 1.

A decoction of cabbage, with an addition of raisins, was formerly much used by preachers and pleaders, in hoarseness, and defects of voice, arising from too long speaking.

The juice of cabbage is said to be a laxative, and the substance an astringent: hence the proverb in the school of Salerno :

“ *Jus caulis solvit, cuius substantia stringit.*”

The Dutch and the Germans make great use of cabbage; and in Berne, there is scarcely an inhabitant who does not eat of it at least once every day.

In this country it is brought to table plain boiled, or stewed with beef, also fried with beef, and it is one of the vegetables that form our spring soup. Force meagre cabbage is an excellent dish, and both the red and the white make a good pickle.

Dr. R. James says, cabbage is agreeable to the stomach, if it be eaten slightly boiled; for after thorough boiling it binds, and much more so if twice boiled. We cannot here pass over the advice of Bruyerinus, respecting the preparing cabbage for the table. “ I must,” says he, “ expose an error, which is no less common than pernicious, in preparing cabbage. Most people, in consequence of

the ignorance of their cooks, eat it after it has been long boiled, a circumstance which does not a little diminish both its grateful taste and salutary qualities. But I observe, that those who have a more polite and elegant turn, order their cabbage to be slightly boiled, put into dishes, and seasoned with salt and oil; by which method they assume a beautiful green colour, become grateful to the taste, and proper for keeping the body soluble. This circumstance ought not to be forgot by those who are lovers of cabbage."

The ancients boiled their cabbage with nitre, which rendered it at once more grateful to the palate, and more agreeable to the eye.

The summer cabbage is said to be more acrimonious and hurtful to the stomach, than that which is eaten in the winter. The use of this vegetable in food has been affirmed by some authors, to be good for dulness of sight, and tremblings of the limbs.

Simon Pauli tells us, that he knew a young girl, who, in the space of fourteen days, had an incredible number of warts taken off one of her hands, by anointing them with the juice of cabbage, which was allowed to dry on them.

From the nature of the organization of these plants, and the diversity of powers they possess, to receive nourishment in the superabundance which high cultivation affords them, they undergo more rapid changes than most plants ; this is particularly observable in the species called cauliflower, which often in a few days branches from the principal stalk, with such force and numbers, as to form a solid head of snowy tender buds, which are afterwards forced to a considerable height before the blossoms open.

In the *Economical Journal of France*, the following method of guarding cabbages from the depradation of caterpillars, is stated to be infallible ; and may, perhaps, be equally serviceable against those which infect other vegetables.

Sow a belt of hemp-seed round the borders of the ground where the cabbages are planted, and although the neighbourhood be infected with caterpillars, the space inclosed by the hemp will be perfectly free, and not one of these vermin will approach it.

We have known brocoli preserved from the injury of the severest winters, by being taken out of the ground late in the autumn, and replanted in a slanting direction. This experiment was made in the year 1819, with

such success, that they all flowered in the following spring, although there was scarcely a single head out in all the extensive plantations at Fulham, that survived the inclemency of that winter.

CAPER BUSH.—CAPPARIS.

Natural order, Putamineæ. A genus of the Polyandria Monogynia class.

THIS shrub, or bush, the flower-buds of which, when pickled, form such an agreeable sauce to our boiled mutton, is not a native of Europe, being originally brought out of Egypt. Theophrastus, who wrote about 300 years before the birth of Christ, was of an opinion, that the caper bush was of so wild a nature as not to bear cultivation. Pliny, in after-ages, entertained the same idea respecting the citrus tree, and says it will not live out of its native country. The Roman naturalist as little thought that his native valleys would be covered with the fragrant orange, as the Lesbian philosopher expected the ruins of the temples would be overrun by the trailings of the caper bush. This plant seems to have sprung from a dry sandy soil; and since its migration into Europe has fixed

itself in old walls and the fissures of rocks, generally taking a horizontal direction.

Pliny directs the seeds to be sown in sandy ground, and that a bank of stone-work should be raised for it to spread on: he says, those who eat capers daily, need not fear the palsy or the spleen. The Romans used the root, when bruised, to take off the marks of the leprosy, and to remove glandular swellings; the seeds pounded in vinegar were an esteemed remedy for the tooth-ache. Pliny cautions his countrymen to beware how they eat foreign capers, excepting those of Egypt, as he says those of Arabia are poisonous, that the African capers are hurtful to the gums, and those which are grown in Apulia cause sickness, and injure the stomach.*

Dodoens says, the capers that grow in Africa, Arabia, Libya, and other hot countries, are apt to cause ulcers in the mouth, and that they consume and eat away the flesh even to the bone; but, he adds, those of Spain and Italy are not so strong, and when brought to us preserved in salt and water, being washed and eaten with vinegar, are both meat and medicine, as they create

* Book xiii. c. 23, book xix. c. 8, and book xx. c. 15.

appetite, although they give but little nourishment.

Capers appear to have been eaten in greater abundance in the time of Queen Elizabeth than at present. Gerard says, “ They are eaten boiled, (the salt first washed off,) with oil and vinegar, as other sallads be, and sometimes are boiled with meat.” This author adds, “ In these our daies divers use to cherish the caper, and to set it in dry and stony places: myself, at the impression heereof, planted some seedes in the brick wals of my garden, which as yet (1597) doe spring and growe greene; the successe I expect.”

In the garden of Camden House, at Kensington, there was a remarkable fine caper tree, which had endured the open air of this climate for the greater part of a century; and, though not within the reach of any artificial heat, produced flowers and fruit every year. This has been termed a real curiosity, and should induce the inhabitants of the warmer parts of Devonshire, Sussex, and Kent, to cultivate the caper bush, where they have chalk-pits, cliffs, or old walls.

As the caper sauce is more familiar to us at our tables, than the plant is in our gar-

dens, it may be remarked, that it is not a capsule or seed, which is pickled; but the bud of the flower just before it is ready to blossom, when the branches are stripped of their buds and leaves, and afterwards separated by passing through a sieve, when they are dried in the shade, and then pickled either in salt or vinegar, and brought to us in barrels, principally from Italy and Toulon. The small Majorca capers that are brought in a salt pickle are esteemed by many persons. Capers are considered an aperient that excites appetite, and assists digestion; and they sometimes enter into compositions for diseases of the spleen and liver.

Benivenius, *De Abditis Morborum Causis*, chap. 105, informs us, that he cured a patient, labouring under disorders of the spleen, only by the use of capers, ordering him to drink forge-water for a year; after he had been harassed with this distemper for seven years, consulted many physicians, and tried many remedies to no purpose. "Externally," says Ettmuller, "the pickle of capers is applied to the side, under the left hypochondrium, with linen cloths, or a sponge, for discussing swellings of the spleen. If to this mustard-seed is added, that the vinegar may be im-

pregnated with its volatile salt, it is an excellent remedy in disorders of the spleen."

The austere bitterish taste of capers sufficiently convinces us of their astringent and corroborating virtues; and if we consider the qualities they derive from the vinegar and salt, we may easily conceive, that they are of a resolvent and inciding nature: for this reason, they are recommended as pickles with food, in order to strengthen a languid appetite; and are principally beneficial to those whose stomachs abound with gross pituitous humours, or who have weak stomachs, and want a due appetite. They are also good for obstructions of the viscera, especially those of the spleen; for the palsy, and convulsions arising from a superfluity of peccant humours. They are also highly recommended in long and chronical fevers.*

Laurentius Joubert recommends them in the plague, seasoned with salt, gently boiled in water, and eaten with vinegar; "for," says he, "they excite an appetite, and open obstructions, if there are any in the body." For this reason they ought not only to be allowed in pestilential cases, but also recommended because they resist putrefaction.

* Prosp. Alpin. Hist. Nat.

According to Simeon Sethi, “Capers are possessed of different qualities; such as bitterness, by which they absterge, cleanse, and incide; acridness, by which they heat, dissipate, and attenuate; and acidity, by which they inspissate, and prove astringent.”

We have procured four new species of this plant from the West Indies; but, as these naturally require the stove, we can only expect from them the gratification of our curiosity, in a sight of the living plants of the western world.

GUINEA PEPPER.—CAPSICUM.

Natural order, Luridæ. A genus of the Pentandria Monogynia class.

THE generic name of this plant is derived from a Greek word, signifying to bite, on account of the biting heat of its fruit; some take it from *capsa*, a chest.

This herbaceous plant was brought to Europe by the Spaniards, and we have accounts of its being cultivated in this country as early as the reign of Edward the Sixth, although it seldom ripens its pods with us unaided by artificial heat; for plants, like men, have

— “ constitutions fitted for that spot
Where Providence, all wise, has fix'd their lot.”

There are many varieties of the capsicum in hot countries, where Nature has sported so much in the form of the fruit, that it is almost endless to trace the shapes and figures which the different kinds assume. They are principally distinguished by the

size, colour, or shape of the pods, which are hollow, and divided into two or three cells, containing kidney-shaped, round, or beaked smooth seeds.

From the rich and varied colour of the fruit, this plant is cultivated among our ornamental housed exotics; but it is also grown in considerable quantities by the market gardeners for the supply of London, where it is much used in pickles, seasonings, and made-dishes, as both the capsula and seeds of the whole tribe are full of a warm acrid oil, the heat of which being imparted to the stomach is thought to promote digestion, assist the tonic motion of the bowels, invigorate the blood, and correct the flatulency of vegetable aliments.

“ *Capsicum* has all the virtues of the Oriental spices, without producing those complaints of the head which they often occasion. In food it prevents flatulency from being caused by vegetables; but its abuse occasions visceral obstructions, especially of the liver. In dropsical complaints, or others where chalybeates are prescribed, a minute portion of powdered *capsicum* is an excellent addition. In lethargic affections, this warm and active stimulant might be of ser-

vice. In tropical fevers, a coma and delirium are common attendants, and in such cases, cataplasms of capsicum have a speedy and happy effect; they redden the parts, but seldom blister unless kept too long. In ophthalmia, from relaxation of the membranes and coats of the eyes, the diluted juice of the capsicum is a sovereign remedy; and I have often witnessed its virtues in many obstinate cases of this sort. In some parts of South America, the Indians prick the loins and bellies of hectic patients, with thorns dipped in the juice of capsicum.

Of late, capsicum has been successfully used in particular cases of the yellow fever. It settles the stomach, abates bilious vomitings, and even milœna, the *morbus niger* of Hippocrates, or black vomit, has been cured by it. The form it is given in is either the green pepper, or the genuine powder capsicum. Three parts of the green bonnet pepper, and two parts crumbs of bread, made into a large pill, and given every two hours or oftener, till the stomach is settled. Or, three grains genuine powder Cayenne pepper, made into a firm pill, and completely coated with white wafer, to be given as above. This medicine has been given to patients in

the end of the yellow fever, when debility and extreme weakness had taken place, and with the happiest effect. It warms and stimulates the stomach, brings on a genial warmth and diaphoresis, and assists greatly in giving a favourable turn to this disorder.”*

In recent pleuritic stitches, a poultice of bruised pepper applied to the place affected, frequently changed, removes the complaint ; and the berries bruised and mixed with lard, are recommended to be rubbed on paralytic limbs.

The following receipt is the famous pepper medicine for the cure of malignant influenza and sore throats ; which has been found highly efficacious, and is recommended as a powerful diaphoretic, stimulant, and anti-septic.

Take two table spoonfuls of small red pepper, or three of common Cayenne pepper, add two of fine salt, and beat them into a paste ; add half a pint of boiling water, strain off the liquor when cold, and add to it half a pint of very sharp vinegar. Give a table spoonful every half hour as a dose for an adult, and so in proportion for younger

* Wright.

patients. Perhaps this medicine might merit a trial in the yellow fever.*

The general mode of preparing Cayenne pepper is by gathering the bird peppers when ripe, drying them in the sun, powdering and mixing them with salt, which, when well dried, is put into close corked bottles, for the purpose of excluding the air, which disposes the salt to liquefy, and therefore is thought by some an improper ingredient in the composition. This is sometimes called Cayenne butter, and is in general esteem for the excellent relish it gives to different dishes.

The mixture called Man-dram is made from these peppers, in the following manner, and seldom fails to provoke the most languid appetite: the ingredients are, sliced cucumbers, eschalots or onions cut very small, a little lime-juice and Madeira wine, with a few pods of bird or bonnet pepper well mashed and mixed with the liquor.

For the purpose of pickling, the bell and goat kinds are considered the best: they are to be gathered before they arrive at their full size, while their skin is tender: they are to

* Lunan.

be slit down on one side, and the seeds taken out, after which they should be soaked in salt and water for twenty-four hours, and the water changed at the end of the first twelve hours. When they are taken out of this, they should be drained, put into bottles or jars, and boiled vinegar, after being allowed to cool, poured upon them in sufficient quantity to cover them. The vessels should then be closely stopped for a few weeks. They are esteemed the wholesomest pickle in the world. The pepper vinegar, with barley water and honey, is a good mouth or throat gargle.

The following is a receipt for making what is called Cayenne pepper pot : "Take the ripe bird peppers, dry them well in the sun, then put them into an earthen or stone pot, mixing flour between every stratum of pods, and put them into an oven after the baking of bread, that they may be thoroughly dried : after which they must be well cleansed from the flour; and if any stalks remain adhering to the pods, they should be taken off, and the pods reduced to a fine powder : to every ounce of this add a pound of wheat flour, and as much leaven as is sufficient for the quantity intended. After this has been pro-

perly mixed and wrought, it should be made into small cakes, and baked in the same manner as common cakes of the same size: then cut them into small parts, and bake them again, that they may be as dry and hard as biscuit; which being powdered and sifted, is to be kept for use." This is prodigiously hot and acrimonious, and by some recommended as a medicine for flatulencies. If the ripe pods of capsicum are thrown into the fire, they will raise strong and noisome vapours, which occasion vehement sneezing, coughing, and often vomiting in those near the place, or in the room where they are burned. Some persons have mixed the powder of the pods with snuff, to give to others for diversion: but where the quantity is considerable, there may be danger in using it; for it will occasion such violent fits of sneezing as may break the blood-vessels of the head.

A small quantity of the capsicum powder has sometimes given almost immediate relief in the tooth-ache, when arising from a carious cause: it is to be applied to the part affected by introducing it into the cavity of the carious tooth.

CAPSICUM PEPPERS.—These are all much of the same nature. The large hollow sort,

called bell pepper, picked while green, is an excellent relishing pickle or sauce for meat ; the other small red peppers, when ripe, taken and dried in the sun, and then ground with salt and pepper, close stopped in a bottle, are an excellent relisher to sauces for fish or flesh, and commonly called Cayenne butter. All these sorts of pepper are of a much more burning nature than white or black pepper. Some punish their slaves by putting the juice of these peppers into their eyes, which is an unspeakable pain for a little while ; and yet it is said that some Indians will put it into their eyes before they go to strike fish, to make them see clear.*

Near St. Michael de Sopa, in the vale of Aricia, they cultivate the *agi*, that is, Guinea pepper ; where there are several farms which have no other product but this pepper. The Spaniards of Peru are so generally addicted to that sort of spice, that they can dress no meat without it, though it is so very hot, that it can only be endured by those who are well used to it.†

* Lunan.

† Barham, p. 30.

CARAWAY.—CARUM.

Natural order, Umbellatae. A genus of the Pentandria Digynia class.

MODERN botanists pronounce this plant to be a native of Britain, and from its growing so freely in our island we might have claimed it as indigenous to our soil, but the origin of its name, and the positive manner in which Pliny mentions from whence it sprang, refute this opinion.

Pliny says, "The caraway is a stranger, and it is named from its native soil, Caria;" the same author states, that the second in quality came from Phrygia,—both countries in Asia Minor.* He says, it will grow in most places, and that its seed is in great demand in the kitchen for culinary purposes. Dioscorides, who wrote on medicinal herbs in the time of Antony, to whom he was physician, states likewise that it is called Carum,

* Pliny, book xix. chap. 8.

from the seed having been first brought from Caria ; and from the Latin the other European names seem to have been derived. The Italians call it Caro, the Spanish Caravea, the French Carvi, the English Caruwaie, now corrupted to Caraway. As it was used by the Romans as a domestic spice, they, in all probability, were the first who sowed it in the British soil. Gerard takes no notice of its growing wild in England, but says, it grows abundantly in Germany and Bohemia, in fat and fruitful fields. The people of these countries are naturally fond of hot spicy food, and therefore make great use of this wholesome seed in bread, comfits, confections, &c. &c. Ray says, this plant grows wild in several places of Lincolnshire and Yorkshire, but we presume that it is the remains of former cultivation.

It is one of the greater hot seeds, and is esteemed stomachic, carminative, and diuretic ; it dispels wind, and strengthens digestion ; is good for the dizziness in the head, and weakness of sight. Our distillers use it in forming a cordial spirit. When young, it is an excellent salad herb.

The seed-cake formed one of the rural entertainments that the old English farmers

made to reward their servants, at the end of wheat-sowing, and which Tusser mentions next to the festival of harvest-home :

“ Wife, sometime this week, if the weather hold cleer,
an end of wheat-sowing we make for this yeere :
Remember thou, therefore, though I do it not,
the seed-cake, the pastries, and furmenty-pot.”

We regret to find, that refinement has so far crept into the farm-houses, as to banish this feast, and in many instances, even the harvest-supper. We cannot see these old customs abolished, which time has almost made sacred, without feelings of regret ; and we are satisfied, that the master loses none of his importance by joining in these annual feasts and rustic sports, but, on the contrary, attaches his servants to the interests of his family, and keeps them from the habit of frequenting public ale-houses ; therefore, every good subject, who is solicitous for the prosperity of the farmer and happiness of the husbandman, will be glad to see Thomson’s festive descriptions realized :

“ Nor wanting is the brown October, drawn,
Mature and perfect, from his dark retreat
Of thirty years;”——

— “ Nor wanting is
 — the smoking sirloin stretch'd immense
 From side to side ; in which, with desperate knife,
 They deep incision make, and talk the while
 Of England's glory, ne'er to be defaced.”

Autumn.

The Romans held their rural festivities with religious mirth, and which had great analogy to the customs of old English farmers.

“ But, first of all, Immortal Powers adore,
 With annual rites great Ceres' aid implore,
 With joy her altars on the grass restore.

* * * * *

Then you and all your village neighbours join,
 And offer honey, mix'd with milk and wine,
 To Ceres' name ; in solemn pomp lead thrice
 Around the fields the destined sacrifice.
 With all your rural train in chorus sing,
 And to your homes with vows the goddess bring :
 Nor is it lawful to unload the ground,
 Till you perform those rites with joyful sound,
 And dancing, sing her praise, with oaken garlands crown'd.”

VIRGIL, *Georgics, book i.*

This elegant poet tells us, at the end of the second book of the *Georgics*, that the ancient farmers entered into the holyday sports of their domestics.

“ When harmless holydays inspire,
 He and his friends, around a cheerful fire,
 Upon the grass their careless limbs recline,
 To Bacchus quaff, and pour out sprightly wine ;

Then with a prize provokes his shepherds' art,
To see who best can throw the winged dart;
Or else, with moist'ning oil their joints prepares,
And for the wrestling prize the brawny shoulders bares."

The root of the cultivated caraway is of a pleasant sweet taste, and was formerly preferred by many persons to parsnips, having the faculty of warming and comforting a cold weak stomach. We cannot account for the cause of its having fallen so entirely into neglect, but from the great variety of new favourites, with which modern gardens are filled.

CARROT.—DAUCUS.

A genus of the Pentandria Digynia class. It is a biennial plant, belonging to the numerous Umbellated family.

Δαυκός, Dioscor. *Daucus*, Plin. from *δακός*, as some think, on account of its hot taste.

The wild carrot, *Daucus Carota*, is indigenous to our soil, the seed of which, it is said, when sown in manured ground, will produce good roots the second or third year; but Miller tells us that he could not succeed in obtaining good carrots from the seed of the *Daucus Carota*.

The best kind of carrots appear to have been natives of Candia, where, according to Pliny, the finest and most esteemed carrots were to be found; and the next to them in Achaia.* This author observes, that in whatever country they grow, the best are produced in sound dry ground; that wild carrots are to be found in most countries, but never in a poor hungry soil.

* Book xxv. c. 9.

Theophrastus states, in the ninth book of his History of Plants, that carrots grow in Arcadia, but that the best are found in Sparta.

Petronius Diodotus reckoned four kinds of this root, but there is reason to think he included the parsnip with them.

The ancients used the seed both of the wild and the cultivated carrot, as an internal medicine against the bite of serpents ; they also gave it to animals that had been stung by them ; a dram weight in wine was thought a sufficient dose.

Gerard calls these plants *Daucus Cretensis verus*, or Candie carrots, and says, "that the true *Daucus* of Dioscorides does not grow in Candia only, but is found vpon the mountains of Germanie, and vpon the hils and rocks of Iura, about Geneua, from whence it hath been sent and conueied by one friendly herbarist unto another, into sundrie regions." This author describes the *Pastinaca sativa tenuifolia*, yellow or garden carrot, which, he says, "are sown in the field and in gardens, where other pot-herbs are : they require a loose and well-manured soil." He adds, "that in his time, the yellow carrot was most commonly boiled

to be eaten with fat meat, but that he did not esteem it to be a very nourishing food."

By later authors, carrots are said to have been introduced into this country by the Flemings, in the reign of Queen Elizabeth, and that they were first sown about Sandwich in Kent.

We now cultivate many varieties, so as to suit various soils, and to supply the kitchen regularly at all seasons of the year.

The early red horn carrot is the forwardest sort in ripening, and best adapted for forcing. The white carrot, or *carotte blanche*, of the French, is but little known in our markets, and seldom grown, excepting by those families who are fond of French dishes, as it is much used in their pottage, and is certainly a very delicate root, but is best adapted for summer and autumnal use, as it does not keep so well through the winter as the common carrot.

The French consider the *carotte violette*, purple carrot, to be the sweetest of all the kinds; but it is generally found to run to seed the year it is sown.

The garden carrot delights in a warm sandy or light soil, which should be dug deep, that the roots may better run down;

for if they meet with any obstruction, they grow forked. Carrots should not be sown on land that has been much dunged the same year, as it causes them to be worm-eaten, but when they are sown on fresh ground well prepared, a heavy crop may be expected.

The seeds should be sown on a calm day, as, from their light and feathery nature, it is impossible to sow them regularly when the air is agitated: it is also a good practice to mix the seeds with sand, in order that they may not adhere together in sowing.

Mr. Billing, an ingenious farmer in Norfolk, obtained from twenty acres and a half, 510 loads of carrots, which he found equal in use and effect to a thousand load of turnips, or 300 loads of hay. Some of them measured two feet in length and from twelve to fourteen inches round. Cows, sheep, hogs, and horses, become fond of this food; and as they are greatly nourished by them, its culture may be worthy the attention of those farmers whose lands are suitable to its growth.

Four pounds of carrot-seed is considered enough to sow an acre of land.

Martyn says, “ It is greatly to be wished, that the culture of this root was extended to every part of England, where the soil is proper for the purpose; for there is scarce any root yet known which more deserves it, being a very hearty good food for most sorts of animals. One acre of carrots, if well planted, will fatten a greater number of sheep or bullocks, than three acres of turnips, and the flesh of these animals will be firmer and better tasted. I have known these roots cultivated for feeding deer in parks, which has proved of excellent use in hard winters, when there has been a scarcity of other food; at which times great numbers of deer have perished for want, and those which have escaped, have been so much reduced, as not to recover their flesh the following summer; whereas, those fed with carrots have been kept in good condition all the winter, and, upon the growth of the grass in the spring, have been fat early in the season, which is an advantage, where the grass is generally backward in its growth.

“ There is also an advantage in the cultivation of this root over that of the turnip, because the crop is not so liable to fail; for

as the carrots are sown in the spring, the plants generally come up well: whereas turnips are frequently destroyed by the flies at their first coming up, and in dry autumns they are attacked by caterpillars, which in a short time devour whole fields."

Carrots are generally served to table with boiled meats: they make an excellent soup, and form an agreeable pudding. In some parts of the country they are sent to table with fish of every description.

Dr. James says, carrots are one of the most considerable culinary roots; that they strengthen and fatten the body, and are a very proper food for consumptive persons. They are somewhat flatulent, but are thought to render the body soluble, and to contribute to the cure of a cough.

In the *Historia Plantarum*, ascribed to Boerhaave, we read that this root is much celebrated for its virtues against the stone, and nephritic disorders.

The seeds of wild carrots are esteemed one of the most powerful diuretics we are acquainted with, of our own growth. They are given in disorders of the breast and lungs, in pleurisies, in stranguries, and in

the stone and gravel. Helmont informs us, that he knew a gentleman who was seized with a fit of the stone every fifteen days, freed from the attacks of his disorder for several years, by means of an infusion of carrot-seed in clear malt liquor. An infusion of them in white wine is excellent in hysterical complaints.

The roots of the garden carrots are now much used as a poultice for running cancers, &c.

Sugar is found in this root, but in less quantities than in the parsnip, or the beet. A very good spirit may be distilled from carrots. An acre of these roots, allowing the produce to be twenty tons, will produce 240 gallons of spirits, which is considerably more than can be obtained from five quarters of barley.*

Parkinson tells us that the gentlewomen of former days, decorated their hats or heads with the leaves of the wild carrot, which in autumn are exceedingly beautiful. This would rather shew the simplicity of our ancestors than their want of taste; as we have

* Hornby in Young's Annals.

seen ladies' dresses trimmed with the curled leaves of the garden parsley, and which were not more admired for their novelty than for the elegance they displayed.

Flowers may be cut out of large carrots that closely resemble ranunculus, without the least aid of colouring.

CHAMOMILE.—ANTHEMIS.

Natural order, Compositæ discoides. A genus of the Syngenesia Polygamia superflua class.

THIS herb is the *Ανθεμίς* of Dioscorides, and the *Ανθεμόν* of Theophrastus. It was called *Leucanthemis*, and *Leucanthemus*, from the whiteness of the double blossom: others named it *Eranthemon*, because it flourished so early in the spring; and on account of its savour resembling an apple, it was called *Chamæmelon*, from which the English name is derived.

Ancient story informs us, that this plant took its generic name from Athemis, a virgin shepherdess, who kept her flock near Cuma, and not far from the cave where one of the Sibyls delivered her oracles. Athemis frequently assisted at these ceremonies, and being present when the fate of lovers was to be decided, was so frightened by Arphorles bursting abruptly into the cave to know his doom, that she died on the spot, and was

instantly changed into a plant bearing flowers, which received her name.*

It is a curious circumstance, that the first person who appears to have praised and recommended this herb in medicine, lived to a very advanced age without ever knowing a day's illness. Asclepiades pledged himself to cease to act as a physician if he should ever be known to be sick. Mithridates, king of Pontus, entertained so high an opinion of his skill, that he sent ambassadors to him with great offers of reward to tempt him to reside at his court, but which proposal was rejected by the Bithynian, who gave the preference to Rome; where he became the founder of a sect in physic which bore his name.†

The ancient physicians considered the flowers and leaves of the chamomile as a diuretic which was salutary in cases of stone and gravel. They made them into trochisches or lozenges, which were for spasmodic disorders, as well as for the jaundice and complaints of the liver, and they pounded the leaves with the roots and flowers as a remedy against the sting of serpents and other reptiles. The Romans preserved the dried

* Liger. † Plin. b. vii. c. 37, and b. xxii. c. 21.

flowers, as well as the leaves, both for medicine and for winter garlands.

The common single chamomiles are esteemed in medicine as being more effective than the double flowers, having a greater quantity of the yellow thrum, in which lies the strength of the flower, although the latter blossoms are generally brought to market in preference. The leaves of the plant are commended before the blossoms, as a digestive, laxative, emollient, and diuretic medicine. The flowers are given in infusion as a gentle emetic; they are also used in emollient decoctions, to assuage pain.

Dr. R. James says, "Chamomile is a plant of many virtues, being stomachic, hepatic, nervine, emollient, and carminative; it strengthens the stomach and bowels, helps the cholic, jaundice, and stone, &c. It is good against quartan and other agues. Outwardly, it is used in fomentations for inflammations and tumours; applied hot to the sides, it helps the pains thereof."

The powder of dried chamomile-flowers was used in the time of Dioscorides to cure intermitting fevers: Riverius prescribed it on the same occasion. Morton, and Dr. Eli-sha Coysh, both affirm, that they have cured

fevers with chamomile flowers reduced to fine powder ; and it is still a common febrifuge with the Scotch and Irish.

It is said that no simple in the *Materia Medica* is possessed of a quality more friendly and beneficial to the intestines than chamomile flowers.

Boerhaave says, " The essential oil of chamomile, made into pills with a bit of bread, and given two hours before meals, after fasting a considerable time, is a certain cure for worms."

Gerard informs us that chamomile flowers were formerly used in the bath to rarify the skin, open the pores, and produce perspiration ; " and were," says he, " planted in gardens both for pleasure and profit." The double-blossomed variety makes a pretty edging for the borders of cottage gardens.

The *Hortus Kewensis* notices twenty varieties as known to the English gardeners, one-fourth of which are native plants ; and the kind most esteemed for medical purposes is found abundantly on many of our commons.

It is said, that a stone taken out of the human body, on being wrapped in chamomile, will in a short time dissolve. Hence, says

Coles, it is evidently an excellent remedy for that complaint, if the syrup or decoction of the flowers be taken in a morning, fasting.

This plant is remarkable for beginning to flower at the top of the branches, whereas others that do not open all at one time, begin at the bottom ; and the flowers, which are composed of white petals set in a yellow disk, yield by distillation a fine sky-blue oil.

CHERVIL.—SCANDIX.

Natural order, Umbellatae. A genus of the Pentandria Digynia class.

THE Greeks called this herb Χαιρόφυλλον, *Chærophyllum*, either from its numerous leaves, or, as most old herbalists suppose, from the cheerfulness, or joy and gladness, which, they affirm, the leaves of this plant produced in those who ate them. The Latins followed the same word, with little variation, as Columella calls it *Chærophyllum*. Most of the European languages seem to have derived the name of this vegetable from the same source; the Dutch calling it Kervell, the Germans Korffol, the Italians Cerefoglio, the French du Cerfeuil, and by our oldest botanists it is written Cheruill.

The garden chervil, *Scandix cerefolium*, is said to be a native of the Austrian Netherlands. Aiton ranks it among the indigenous plants of England; Gerard takes no notice of its country, but says, “The common cher-

uill growtheth in gardens with other pot-herbs: it prospereth in a ground that is dunged and something moist." He adds, " The great sweet cheruill growtheth in my garden, and in the gardens of other men who haue been diligent in these matters."

Parkinson says, " It is sown in gardens to serve as a sallet herbe: the other (*Cerefolium sylvestre*) growtheth wilde in their vineyards and orchards beyond sea, and in many of the meadowes of our owne land, and by the hedge-sides, as also on heathes."

The ancients held this herb in the highest esteem. Pliny tells us, that the Syrians, who were great gardeners, cultivated it as a food, that they ate it both boiled and raw, and that they considered it capable of eradicating most chronical distempers.

This was evidently the species called Venus's comb, *Scandix pecten*, or what was formerly called Shepherd's needle, as Pliny observes, that it was often called *Gingidium*, viz. tooth-pick chervil.

The garden chervil is a small annual plant, with winged leaves; when young, somewhat resembling parsley, but as it runs to seed it bears more the appearance of hemlock. This herb is grateful to the palate,

and is much cultivated by the French and Dutch, who are so fond of it, that they have hardly a soup or salad but the leaves of chervil make part of the composition; and it certainly is often found a more agreeable and mild addition to seasonings, than the parsley which is so universally used by the English cooks. We have found a small quantity of this herb an improvement to a lettuce salad, as its moderately warm quality in some degree qualifies the coolness of the latter plant. It is said to be aperient and diuretic.

The herbalists of ancient days are lavish in the praise of this vegetable; both Dioscorides and Galen thought it good for the stomach, and serviceable in complaints of the liver, &c.

Chervil should be sown early in the spring, and it will be found to scatter its seed for the autumnal crop, without further trouble than keeping it from weeds.

The roots of this plant were formerly eaten. Gerard says, "I do vse to eate them with oil and vinegar, being first boiled, which is very good for old people that are dull and without courage: it reioiceth and comforteth the heart, and increaseth their strength."

CINNAMON, CINNAMOMUM, AND CASSIA.—CASSIA.

*Natural order, Holoracea. A genus of the
Enneandria Monogynia class.*

CINNAMOMUM or *Cinnamum*, among the Latins, is the same with the *Κιννάμον* and *Κιννάμονος*, or *Κιννάμωνος*, of the Greeks. This last name is derived from *Κιννάμονος* and *ἄμωμον*, or from the Hebrew word סִנְמָן or קִנְמָן which signifies a cane or reed, and the *ἄμωμον* of the Greeks.

This tree, the spicy bark of which was so much esteemed by the ancients, on account of the sweet odour it afforded in their solemn sacrifices, and is now so justly regarded for its astringent quality in medicine, is a species of the laurel, *Laurus*, and a native of the East Indies ; the cinnamon being principally confined to the Island of Ceylon, whence it might justly be styled the Ceylon laurel.

It seems natural to man to covet things difficult to obtain, and to estimate their

value more by their rarity than their quality; this desire appears to form a necessary part of our constitution, wisely ordained to stimulate industry and promote communication.

The spices of the torrid zone had found their way into the land of Canaan at a very early period, at least 1728 years before the birth of Christ, as we read in the time of Jacob, that they were become an article of commerce. The Ishmaelitish merchants were going into Egypt with their camels laden with spicery, when Joseph was sold by his brethren.*

Moses made the holy anointing oil of pure myrrh, sweet cinnamon, cassia, and sweet calamus.†

Spice appears to have been highly esteemed by the Hebrews in the time of Solomon. The Queen of Sheba, in her visit to that monarch, carried a present of spices, gold, and precious stones; “besides that he had of the merchantmen, and of the traffic of the spice merchants, and of all the kings of Arabia, and of the governors of the country.”‡ Solomon notices this spice as

* Gen. c. xxxvii. v. 25. † Exodus, c. xxxvi. v. 23.

‡ 1 Kings, c. x. v. 15.

a luxurious perfume; “I have perfumed my bed with myrrh, aloes, and cinnamon.”*

From the great distance the Eastern merchants had to travel over desert sands, and the dangers they had to surmount, together with the duties they were obliged to pay at certain cities, the price of cinnamon was much enhanced; and the fabulous stories told of this aromatic drug appear to have been invented for the purpose of exciting wonder, and adding to its rarity. The country from whence cinnamon came, also, appears to have been concealed in great mystery, as well as the spice itself, even in the time of Herodotus, who relates that it fell from the nests of the phoenix, and other fowls which fed on venison, and built on trees situated on the highest rocks, in the country where Bacchus was nourished. It is farther related, that the cinnamon was obtained from these nests, by beating them down with arrows headed with lead.

The cassia was said to be brought from a country surrounded with marshes, and guarded by terrible bats, armed with dreadful talons, and accompanied by flying dragons.

* Prov. c. vii.

Pliny tells us, that the cinnamon grew in that part of *Æthiopia* now called *Abyssinia*, and that the sale of it was confined to the King of the *Gebanites*, by whom it was taxed and then sold in open market to the merchants at a price fixed by that sovereign. “In old times,” says Pliny, “it sold for one thousand *denarii* per pound, but it afterwards rose to one thousand five hundred *denarii*, owing to the forest of cinnamon being burnt down by the wrath of the *Troglodites*, their barbarous neighbours.” This proves that the cinnamon tree was not anciently confined to *Asia*, much less to the Island of *Ceylon*. The same author informs us that the *Æthiopians* bought up all the cinnamon of their neighbours, and transported it to other countries, in small punts or boats, without either helm, rudder, or sail, and only one man to a boat. They chose the dead of the winter for the voyage, when the south-east winds blew, and on which alone their safe arrival must have depended, as these winds drove them through the *Gulfs*. They doubled the point of *Argest*, and coasted along to the port of *Ocila*, the principal town of the *Gebanites*. It took them five years to make one voyage and to return. This will naturally account

for the high price of cinnamon in Syria, as well as in Europe. Added to this, one third of the cinnamon was annually burnt, as an offering to the sun, by these idolatrous people, who, before they commenced barking the branches of the cinnamon-trees, made great offerings of oxen, goats, and rams, to their god Assabinus, (the Jupiter of the Arabians,) who was considered the patron of these trees. It was contrary to their religion to commence stripping the cinnamon either before sun-rising, or to continue it after his setting. When this harvest finished, the bark was divided by their priest into three lots, one of which remained on the spot until it became so dry as to be set in flames by the sun, and so consumed.

The Emperor Vespasian, in all probability, first observed the high regard paid to cinnamon by the inhabitants of Palestine, in their places of worship, and which he seems to have imitated at Rome; for on his return from the former country, he dedicated to the Goddess of Peace, in one of the temples of the Capitol, garlands and chaplets of cinnamon, inclosed in polished gold.

In the temple built on Mount Palatine, by the Empress Augusta, in honour of Au-

gustus Cæsar, her husband, was placed a root of the cinnamon-tree, of great weight, set in a cup of gold, which yielded, yearly, several drops of sap, that congealed into a gum. This I have seen, says Pliny, and it remained in the same situation until the temple was consumed by fire.

The Ceylonese draw from the roots of these trees, a liquor, which, as it hardens, becomes a true camphor. This anecdote, therefore, confirms the opinion, that the cinnamon now in use is the same as that of the ancients, although some authors state, that the cinnamon so highly extolled by the Israelites, is now unknown. We agree, that the tree which anciently grew in Ethiopia, might have been of a more fragrant quality than that produced in Ceylon.

The species of camphor obtained from the root of the cinnamon-tree is called Baros by the Indians, and is considered by far the best for medical purposes ; and in some parts it is gathered and kept only for the use of the kings, who use it as a cordial medicine, it being esteemed of a singular and uncommon efficacy.

Nievhoff, who accompanied the embassy which the Dutch made to China in the year

1655-6, tells us, that there are great quantities of cinnamon-trees in the province of Quangsi, particularly near the city of Cin-chew. He says, these trees differ in no respect from those of Ceylon, excepting that the scent is stronger, and the flavour hotter. He adds, that these cinnamon-trees are about the size of orange-trees, and have many long straight branches, whose leaves have some analogy to those of the laurel. This tree bears a white well-scented flower, followed by a fruit of the size of an acorn, but which is not much regarded except by the birds. A kind of pigeon that feeds on this fruit, is the chief agent in propagating these trees in Ceylon; for, in carrying the fruit to a distance to its young, it often drops it in various places, where it takes root.

Nievhoff says, it is the nature of these trees to renew their bark in about three years, when they may be peeled a second time; but it appears to be the present practice in Ceylon to cut the trees down to the root as soon as they are barked, and from the trunk new shoots spring up, which in five or six years become trees fit for barking. When the cinnamon is freshly taken from the tree, it is flat, and has little taste, smell, or colour; but

it twists or convolves, as it dries, into the form of a hollow stick or cane, and by thus exhaling its superfluous humidity, it acquires a sweet brisk smell, and a sharp pungent taste. Some of the trees produce a blossom as red as scarlet; and Seba tells us, that he has found them with a blue flower.

The blossoms of the cinnamon are small, and generally white; they grow in large bunches at the extremity of the branches; their perfume is something like that of the lily of the valley. The leaf is longer and narrower than that of the common bay-tree; the body grows to twenty or thirty feet in height.

The fruit or berries are said to be an excellent carminative. When boiled in water, they yield an oil, which, as it cools, hardens, and becomes as white and firm as tallow, and is called cinnamon wax, of which they made candles, that were only allowed to be burnt in the king's palace.

When the Dutch possessed Ceylon, they were so jealous of these trees, which afforded them such a valuable article of commerce, that the fruit and young plants were forbidden, by an order of the States, to be sent from thence, lest other powers should avail

themselves of the advantages derived from them. They destroyed all the cinnamon trees about the kingdom of Cochin, and thus for a long time kept the whole of this aromatic spice in their own hands, and exclusively supplied all Europe, in the same manner as the eastern nations were anciently served by the Gebanites.

Cinnamon is now understood to be that which comes only from Ceylon; that brought from Java, Sumatra, and Malabar, being considered cassia. Nievhoff says, these trees grow in such abundance in Ceylon, that it would more than supply all the world, if the inhabitants of that island were not sometimes to burn whole woods.

We presume, likewise, that cinnamon is much less in demand now than in ancient times, when it was so much used at the altars and the funeral piles, as well as by those nations which embalmed their dead.

Bauhine writes, in the sixteenth century, "that the powder called the *Pulvis Ducis* is used by many, which consists of cinnamon and sugar; and is of so grateful a taste, that, with an addition of wine, it is used as a sauce in the entertainments of grandees,

whose luxury is (says he) grown to such an exorbitant height, that they use the most delicious medicines as common aliments."

The best cinnamon is of a bright brown colour, of a brisk agreeable taste. Its qualities are to heat and to dry, to fortify the spirits, and to help digestion ; but its principal use in medicine is as an astringent, with which intention it is prescribed in diarrhoeas, and weaknesses of the stomach. It is much used for adding a grateful and agreeable taste to various kinds of aliments, principally by boiling it among them. Bauhine expressly affirms, that whatever virtues the ancients ascribed to their *Cinnamomum* and *Cassia*, justly belong to our cinnamon, since it is of an aromatic, stimulating, and corroborating quality. Hence it is classed among the stomachics and uterine medicines, and affords singular relief to women afflicted with a loss of strength, or a lax state of the fibres. In a word, whatever can be said of the use or abuse of aromatics, may be justly applied to cinnamon ; for, according to Boerhaave, in his *Chim.* vol. i. cinnamon, the most excellent of all other aromatics, is possessed of the same common virtues with them, though in a higher degree.

Its taste is exquisitely grateful, and its smell so highly fragrant, that it diffuses itself not only over all the island of Ceylon, but also, when the winds blow from the land, over a large tract of the ocean; so that, according to Jurgen Anderstn, quoted by Dexbachius, “ the sailors are sensible of the smell of cinnamon at six or eight miles distance from the shore.”

Cinnamon mixed with honey, and used as an ointment, is said to remove freckles and other cutaneous blemishes of the face.

An oil is extracted from this bark, called the essence of cinnamon, which is an excellent cardiac. The Chinese, as well as the islanders of Ceylon, distil from the green bark and flowers of this tree, a liquor similar to our cinnamon water, which is applied to several useful purposes.

The cinnamon-tree was first cultivated in this country in the year 1768.

COTTON.—GOSSYPIUM.

*Natural order, Malvaceæ, or Columniferæ.
A genus of the Monadelphia Polyandria class.*

WE are not able to discover on what account the Greeks named this plant *Ξύλον* and *Γοσσιπιον*, *Xylum* and *Gossipium*. Serapio calls it *Coto*, from whence we seem to have derived the English word Cotton.

There are six distinct species of this plant now discovered; the most common and important of which is the *Xylon herbaceum*, or herby cotton. The vegetable floss is formed in the interior of the blossom of the plant, and surrounds and intermixes with the seeds, when the petals decay.

The cotton down, which is of a nature between wool, silk, and flax, now forms a principal branch of a tree that is happily cultivated in this country; and lest it should be forgotten, that Commerce is not an indigenous plant of England, we will venture to

remind the reader, that it is an exotic of the most tender nature, that requires the continual care and attention of man to ensure its growth.

There has seldom been more than one large plant known to exist in an age: this, when destroyed, gives rise to its cultivation in some distant part of the globe, where its blossoms beautify, and its fruit enriches the country that nourishes it. Commerce is a native of no particular country, and only thrives in a soil that is manured by honour, equity, and justice. The wisest monarchs have nourished it, and the best servants of thrones have protected it. The Kings of Tyre planted it by the water, and it made their city a great nation, and their merchantmen, princes. “ By thy great wisdom and thy traffic, hast thou increased thy riches.”*

Solomon obtained a branch of this plant from Tyre, through which he made himself the richest monarch of the universe, and his little kingdom the admiration of the world. Alexander sowed its seed in the city to which he gave his own name, and Constantine transplanted it into Constantinople. Edward the First planted it on the banks of the

* Ezekiel.

Thames about the year 1296. It was then a small plant cultivated only by the Hamburgh Company. Elizabeth lived to see it blossom through the nourishment which her enlightened mind procured, not only from the original soil of the Levant, but from the eastern and the newly discovered western world, as well as from the north. The succeeding reigns have enjoyed the fruit, except when it has been blighted by intestine troubles, or cankered by monopoly ; a disease that stints the growth, and nourishes caterpillars.

But, to leave allegory and ideal plants, we travel into the land of Ham, from whence the *Gossipium* plant originated. It is supposed that anciently it grew only in Upper Egypt ; but on this we cannot decide so positively as we can affirm that the Egyptians were the people who first made cloth from cotton wool.

The Israelites, who must have learnt the art while in bondage, in all probability were the first who cultivated this plant in the land of Canaan.

From Arabia it would naturally travel towards China, through all the countries that lie below the 40th degree of north latitude ; but, as a species of the cotton plant has

been found in the same latitude in America, it confirms the opinion that most plants spring spontaneously within a given distance of the Poles, and that their varieties originate from the nature of the soil, or accidental impregnation from plants of a similar species.

The Phœnicians, who were the fathers of trade, and the Greeks, who were the sons of art, would, from their intercourse with Egypt, transplant the *Gossypium* to their own isles.

Pliny says, in his Natural History*, that in the higher parts of Egypt, towards Arabia, there grows a shrub or bush that produces cotton, which is called by some *Gossypium*, and by others *Xylon*. He says, the plant is small, and bears a fruit resembling the bearded nut or filbert, out of the inner shell or husk of which the downy cotton breaks forth, which is easily spun, and is superior, for whiteness and softness, to any flax in the world. Of this cotton, he adds, the Egyptian priests of old times delighted to have their sacred robes made. This cloth was called *Xylina*. The same author informs us†, that in an island in the Persian gulf, there were cotton-trees that produced fruit as large

* Book xix. c. 1. † Book xii. c. 10 & 11.

as quinces, which opened when ripe, and were full of down, from which was made fine and costly cloth like linen; and that in an island in the same gulf, called Tylos, there was another kind of cotton tree, called *Gossampines*; that was very productive. Theophrastus also mentions these trees*, which we presume to be the *Arboreum*, or tree cotton, and which seem also the same that Virgil notices:

“Or Ethiopian forests, bearing wool,
Or leaves from whence the Seres fleeces pull.”

This species is a perennial plant or shrub, and was cultivated as a curiosity in this country as long back as 1694.

Nievhoff, who was in China in the year 1655, says, cotton grows in great abundance in that country, and was then one of the principal articles of its trade. The seeds had been introduced into that empire about 500 years previously. Siam produces the most beautiful cotton; hose and other articles, manufactured from this down, exceeding even silk, for lustre and beauty. The seed of this silky cotton has been sown in the Antilles, where the plants flourish, and yield this delicate floss in abundance.

* Book iv. c. 9.

The Turks have long had possession of that part of the Eastern world from whence the common cotton springs. They cultivate this annual plant in the neighbourhood of Damascus and Jerusalem, as also in the Isle of Cyprus. It is likewise cultivated in Candia, Lemnos, Malta, Sicily, and Naples. This variety of the cotton plant is sown in the spring, on land that has been ploughed and prepared for the purpose; and is cut down when ripe, in the same manner as our harvest. The seed of the cotton is about the size of that of tares, and of rather a clammy nature, which causes it to adhere to the downy substance with which it is mixed, and from which it is separated by the little machines, which discharge the seed on one side, and the cotton on the other. Smyrna alone has furnished us with 10,000 bales of cotton wool per annum. This country formerly took great quantities of cotton-yarn from the Turks; but our manufactories are now so complete, that even the spinning is done by machinery, which enables us to get it turned into thread, both more regularly and cheaper than the indolence of the Turks can furnish it; but we still import some cotton-yarn from the Mahometans,

which, being drawn from the distaff, has great advantage over the yarn which is spun by machinery for making candle-wicks, particularly those of sperm and wax, as the fine threads being drawn straighter, are not so liable to spring out in burning, which causes the candles made of other cotton to gutter and burn irregularly.

It appears that we had made some progress in the manufactory of cotton in Queen Elizabeth's reign, as Gerard observes in his History of Plants, "To speake of the commodities of the wool of this plant, it were superfluous; common experience, and the daily vse and benefit we receive by it, doth shew; so that it were impertinent to our history, to speake of the making of fustian, bombasies, and many other things that are made of the wooll thereof."

This author appears to have been the first who attempted to cultivate the *Gossipium* plant in England, for he says that, "it groweth about Tripolis and Alepo in Syria, from whence the factor of a worshipful merchant in London, Master Nicholas Lete, did send vnto his said master diuers pounds weight of the seede, whereof some were committed

to the earth at the impression hereof: the success we leave to the Lord. Notwithstanding, my selfe, three yeares past, did sowe of the seedes, which did grow very frankly, but perished before it came to perfection, by reason of the colde frostes that overtooke it in the time of flowring."

The cotton manufactory alone has raised Manchester from an humble town to a place of the first importance. It has for near two centuries been increasing in size and in trade; and the perfection to which our machinery and the industry of the people have arrived, within these last fifty years, has multiplied the inhabitants, and increased the trade from the supply of its neighbourhood with a few domestic articles, to furnishing the most distant countries, as well as the most sumptuous courts, with its useful and elegant productions.

Calico, or cotton cloth, is now generally become a substitute for linen cloth throughout the kingdom, not only for the finer parts of female dress, but even for domestic purposes, where strength and durability are required. Calico is so called from Callicut, a city on the coast of Malabar, being the

first place at which the Portuguese landed when they discovered the Indian trade. The Spaniards still call it *Callicu*.

The demand for printed calicoes becoming common, induced some persons to attempt the art in London, about the year 1676; and in 1722, an act was passed to promote the consumption of our own manufactures, which prohibited the use of foreign calicoes, that were either dyed or printed, to be used as apparel or furniture, under a penalty of five pounds to the informer for every offence; and drapers selling such calico, forfeited twenty pounds.* The effect of this act was this: it drove the calico printers to imitate the India chintzes, by printing Irish and Scotch linens; which was continued until the making of cloth from cotton was established in England.

The manufacture of calicoes and muslins of every description, with that of velvets, fustians, counterpanes, &c. is now carried on to such an extent, and brought to such perfection, that it is supposed that the neighbourhood of Manchester could supply the whole

* 7 Geo. I. Stat. i. cap. 7.

world with these goods ; which, instead of being imported from the East, are at present shipped for the Indies in great quantities. By the aid of our machinery we also produce from cotton, lace of so even a fabric, and at prices so infinitely below what it can be made for in linen thread, that it has in a great measure superseded the use of real lace.

Manchester, being the centre and heart of the cotton-trade, has either given birth to, or attracted genius from all quarters of the nation, to assist in the necessary operations for forming fabrics as numerous as their embellishing colours are various, in which the arts of the engineer, the mechanic, and the artist, as well as the spinner, the weaver, the bleacher, the dyer, the stainer, and the chemist, are all called into action.

This vegetable wool, that employs so great a portion of our population, is imported in a raw useless state, and is advantageously exported, after being stamped with British art and industry.

The following account of a pound weight of unmanufactured cotton strikingly evinces the importance of the trade and employ afforded by this vegetable : “ The cotton-wool

came from the East Indies to London ; from London it went to Manchester, where it was manufactured into yarn ; from Manchester it was sent to Paisley, where it was woven ; it was then sent to Ayrshire, where it was tamboured ; it came back to Paisley, and was there veined ; afterwards it was sent to Dumbarton, where it was hand-sewed, and again brought to Paisley ; whence it was sent to Renfrew to be bleached, and was returned to Paisley ; whence it went to Glasgow and was finished ; and from Glasgow was sent per coach to London. The time occupied in bringing this article to market was three years, from its being packed in India till it arrived in cloth at the merchant's warehouse in London : it must have been conveyed 5000 miles by sea, and about 920 by land ; and contributed to support not less than 150 people, by which the value had been increased 2000 per cent."*

So wide and so beneficially is the influence of the cotton-trade spread, that, to the knowledge of the author of this work, one individual in the metropolis pays annually from ten to twelve thousand pounds for the article

* Monthly Magazine.

of silver-gilt wire, which he prepares for the manufacturers of Paisley, to be woven in the corner of each demy of muslin, in imitation of the Indian custom.

The cotton-wool is not only used for genuine articles, but is employed to adulterate, or as a substitute for silk; and even many of our linen cloths have a considerable portion of cotton in their composition.

Cotton cloth, like that of linen, when decayed, is transformed into paper for printing.

The seed of the cotton-plant intoxicates parrots. Old medical authors mention the seeds as being a good remedy against coughs, and of a singularly stimulating quality.

Leewenhoek accounts for cotton producing inflammation, when applied to wounds in lieu of linen, by a discovery which he made in examining the cotton with a microscope. The fibres were found to have two flat sides, whence he concludes that each of its minute parts must have two acute angles or edges; which acute edges being not only thinner and more subtle than the globules, whereof the fleshy filaments consist, but also more firm and stiff than any of the globulous flesh, it follows that, upon the application of cotton to a wound, its edges must not only

hurt and wound the globules of the flesh, but also cut incessantly the new matter brought to them to produce new flesh ; and that with more ease, as this matter, not having attained the firmness and consistence of flesh, is the less able to resist its attacks ; whereas the linen ordinarily used in wounds, being composed of little round parts, very close to each other, forms large masses, and is thus incapable of hurting the globular parts of the flesh.

EARTH OR GROUND NUT.—BUNIUM.

Natural order, Umbellatae. Bulbocastanum. A genus of the Pentandria Digynia class.

THERE are two species of this plant indigenous to our soil, although they are now as little known to the English, as the Arachis of South America.

The general inclosures, and the high state of the cultivation of our country, have made many of our wild plants as rare as exotics.

They have changed their English name almost with every British herbist, and have been nearly as often latinized; but we do not find that any attempt has been made in this country to change their nature by cultivation.

In addition to the names above, they are called Kipper nuts, Earth Chesnuts, and Pig nuts.

“I with my long nails will dig thee pig-nuts.”*

Turner mentions them in his “Compleat

* Caliban, in the Tempest.

Herbal" as growing in Richmond heath, and in Coome parke. They are soon after noticed by Gerard, who says, "These herbes do growe in pastures and corne fieldes almost euery where: there is a field adjoining to Highgate, on the right side of the middle of the village, couered ouer with the same; and likewise in the next fielde vnto the conduit heads by Maribone, neer the way that leadeth to Paddington by London, and in diuers other places." He adds, "these roots be eaten rawe, or rosted in the embers."

Dodoens, who was physician to Charles the Fifth, of celebrated memory, mentions in his Herbal, that there is great store of these earth-nuts in some places in England; he says also, that they grow in Holland and in Zealand, particularly by the river Zoom near Barrow, in Brabant. This author informs us that they were cultivated at Brabant, in the gardens of the herbalist; and that they were boiled in many parts of Holland and Zealand, and eaten with meat as turnips or parsnips: they are, says this physician, as nutritious as the latter roots, but harder of digestion than the turnip. Both this author and Gerard mention earth-nuts as an excellent diuretic, and good for the bladder and kidneys. The

seeds of the plant are more powerful as a medicine than the roots.

They are to be found in considerable quantities at Henfield in Sussex, growing in a poor sandy soil, which produced broom spontaneously; particularly in July and August when they are in blossom: the flowers are like those of parsley or fennel, but smaller, and seldom exceeding a foot in height; the leaves are something between those two plants; being less thready than the fennel, and not so connected as the parsley. The root is about the size of a Barcelona nut, and in appearance like the Jerusalem artichoke; the taste very similar to the chesnut, but more oily.

The American ground-nut, or *Pindars*, *Arachis*, is of the order of *Papilionaceæ*, and of the *Diadelphia Decandria* class.

The manner in which this nut is propagated is very singular: as the flowers fall off, the young pods are forced into the ground by a natural motion of the stalk, where they are entirely buried, and the pods are not to be discovered without digging for them. They are, says Lunan, very agreeable nuts, and deserve to be more generally cultivated.

than they are; when roasted, ground, and boiled, they make a good substitute for chocolate. This author says, in his *Hortus Jamaicensis*, that he first saw them growing in a negro's plantation, who affirmed, that they grew in great plenty in his country; these nuts have been cultivated in Jamaica, where they prosper, and are called *Gub-a-gubs* by the slaves.

They are of the size, colour, and shape of a filbert, are covered over in the ground with a thin cistus or skin, which contains two or three of them, and many of the cistuses, with their nuts or kernels, are to be found growing to the roots of one plant. When they are ripe and fit to dig up, the cistus that contains them is dry, like a withered leaf, which is taken off, and leaves a kernel reddish without side, and very white within, tasting like an almond, and accounted by some as good as a pistachio; they are very nourishing, and accounted provocatives. It is said, that if eaten in quantities, these nuts cause the head-ache. Lunan contradicts this assertion, and says he never knew any such effect produced, even in those who chiefly lived upon them; for masters of ships often feed negroes with them all their voyage; and that

he had often eaten of them plentifully, and with pleasure, and never found that effect. They may be eaten raw, roasted, or boiled. The oil drawn from them by expression is as good as oil of almonds ; and the nut beaten and applied as a poultice, takes away the sting of scorpions, wasps, or bees.

These plants were first brought from Africa to the West India islands. In southern climates vast crops of these nuts are said to be produced from light, sandy, and indifferent soils.

Dr. Brownrigg, of North Carolina, transmitted some account of the value of these nuts to the Royal Society. From a quantity of them, first bruised, and put into canvass bags, he expressed a pure, clear, well-tasted oil, useful for the same purposes as the oil of olive or almonds.

From specimens, both of the seeds and oil, produced before the Society, it appeared, that neither of them were subject to turn rancid by keeping. The oil, in particular, which had been sent from Carolina eight months before, without any extraordinary care, and had undergone the heat of the summer, remained perfectly sweet and good.

A bushel of them yielded (in Carolina),

without heat, one gallon of oil ; and with heat, a much larger quantity, but of inferior quality. It has been justly supposed, that, from a successful prosecution of this manufacture, the Colonies may not only be able to supply their own consumption, in lieu of the olive oil annually imported from Europe, but even make it a considerable article of export.

EGG PLANT, OR VEGETABLE EGG.
—*MELONGENA.*

Natural order, Luridae. A genus of the Pentandria Monogynia class.

THIS plant is a species of *Solanum*, or night-shade, of which there are at least sixty-six species. It is a native of the East Indies, and has acquired its present English name from the shape and appearance of its fruit, which is attached to the stem, and set in a cornered cup similar to the berry of the potatoe; those that are white, perfectly resemble an egg, from the size of that of a pigeon to a swan's. Some of the varieties bear fruit of a purple or violet colour, others variegated. These vegetable eggs have one cell filled with compressed roundish seeds.

They were formerly called *Mala insana*, viz. mad or raging apples, from the resemblance they were supposed to bear to the male mandrake of Theophrastus, which is stated to have caused madness; whereas, in reality, they cause no ill, nor excite any symp-

toms of madness, but are used by the Italians, Spaniards, and French, in their sauces and sweetmeats. In these countries, as well as in Barbary, they are planted in the kitchen-garden, and are often boiled with fat flesh, to which they add scraped cheese ; and they are preserved through the winter, either in honey, vinegar, or salt pickle. When the fruit is just ripe, they eat it dressed with spices, &c. It is thought to be the *Belingel* of the Portuguese, the *Tongu* of Angola, and the *Macumba* of Congo. This plant has been supposed to induce a sopor and madness, whence it takes its name.*

There are several varieties of them cultivated in the gardens of the West Indies, and one kind, called *Badinjan* or *Banjham*, often produces fruit in that climate weighing from seven to ten pounds each. Lunan says, in his *Hortus Jamaicensis*, “ I planted, about twenty years ago, half an acre of ground with them, on which my slaves fed, and were well pleased with the food ; they eat something like a squash, but better than any of the pumpkin kind.” He adds, “ they are boiled or fried ; but the best way is to parboil them, taking off their outer skin, which is somewhat

* Hist. Plant. adscript. Boerhaave.

bitter, and then fry them in oil or butter; they are also sliced and pickled for a few hours, and then boiled green, or served in the same manner as mashed turnips ; either way," says Lunan, " they are an agreeable food, and accounted to be aphrodisiac, and to cure sterility: when boiled with wine and pepper, they taste like artichokes." A lady who has many years resided in Jamaica, favoured the author with the following receipt for dressing vegetable eggs :---The inside, after being scooped out, to be fried either in oil or butter, and the outside to be boiled whole, and when drained, to be filled with the fried parts, and sent to table apparently whole, as a dish of eggs. She informed him, that when dressed in the common way, they should be cut into slices, and soaked in salt and water for a few hours, to extract the bitter taste.

The French make great use of the purple variety of this egg-shaped fruit, which they call *Aubergine*, and which is as common as the love-apple in the vegetable markets of Paris. Their favourite method of dressing them, is by taking out the seeds with a scoop, filling the cavity with sweet herbs, and then frying them whole.

In England, the egg plant is principally cultivated for its singular and curious appearance, few families even knowing that they are proper for aliment, excepting those who have resided on the Continent, or who have studied the natural history of plants. They are rarely brought into the London markets, and then so eagerly secured by foreign cooks, that they are seldom seen exposed for sale.

The manner of propagating them, in this country, is to sow the seeds in March, upon a moderately hot bed; and when the plants are come up, they are to be thinned by planting them in another hot-bed, at four inches asunder, watering, and shading them till they have taken root. They must afterwards have as much air as the season will allow, and in May they should be transplanted into a warm border, at about two feet from each other. About the middle of July the fruit will appear, when they require watering to enlarge the eggs, which ripen about the end of August.*

It is not exactly known at what period this plant was first cultivated in England, but certainly it was previous to 1596, as

* Miller.

Gerard says, in the first edition of his *Herbal*, “ This plant groweth in Egypt almost euerywhere, in sandie fieldes, euen of it selfe, bringing foorth fruite of the bigness of a great cucumber. We haue had the same in our London gardens, where it hath borne flowers, but the winter approaching before the time of ripening, it perished ; notwithstanding it came to beare fruite of the bigness of a goose egge, one extraordinarie temperate yeere, as I did see in the garden of a worshipfull merchant, Master Haruie, in Lime-street, but neuer to full ripeness.” “ It is better,” continues this author, “ to haue this plante in the garden, for your pleasure, and the rarenesse thereof, than for any virtue or good qualities yet known. I rather wish Englishmen to content them selues with the meate and sauce of our own countrey, than with fruite and sauce eaten with such perill : for, doubtless, these apples have a mischieuous quality ; the use thereof is vtterly to be forsaken.”

With this caution, we cannot be surprised that the *Melongena* should have been in our gardens for two hundred and twenty years without reaching our tables.

FENNEL.—FŒNICULUM.

Natural order, Umbellatae. A genus of the Pentandria Digynia class. Linnæus has joined this genus to Anethum or Dill.

“ *SYLVANUS* comes with rustic honours crown'd,
Fennel and lilies do his brows surround.”

VIRGIL.

Fœniculum, *Μαραθρον*, seems to be derived from *fænum*, hay; because, when withered and dried like hay, it was formerly preserved in like manner against winter. Others think it was so called because when sown it returns the seed *magno cum fænore*, with vast interest. *Marathrum*, *Μαραθρον*, is by some derived from *μαραίρομαι*, to wither, because, when dry and withered, it was much used in seasoning a great variety of things.

The French writers on herbs state, that this plant was originally brought from Syria; but the English botanists consider it a native of this country.

It seems fond of the sea side, and is found growing in a natural state at Feversham in Kent. It may also be seen growing wild in great abundance on the banks of the river Adur, near the Sussex Pad, between Brighton and Worthing: this wild fennel is precisely the same as that of the garden. The sweet fennel, *Feniculum dulce*, probably is the kind alluded to by the naturalists of France as coming from Syria and the Azores: this variety soon degenerates in our soil into the common fennel, which justifies the supposition, that the common fennel may not be an aboriginal of England, but that it is more probably changed from the seed anciently sown in this country.

The Italians consider the sweet kind of fennel to be a native of the Azores islands. It has long been cultivated in Italy as a salad herb, under the title of *Finochia*; but the English in general have not yet acquired a relish for it; although it eats very tender and crisp, when earthed up as celery, which should be done at least fourteen days before it is used.

We procure the seed from Italy, which should be done annually. The first crop

may be sown in March, in a light rich earth, the second in April, and continued until July, with the same management as celery.

The common fennel is now but little used for culinary purposes, except as a sauce for mackarel. The French epicures keep their fish in the leaves of fennel, to make them firm. It is also used in France in water-suché, and all fish soups.

The whole of the plant is good in soup or broth. It was formerly the practice to boil fennel with all fish, and it never would have been discontinued, had its virtues been more generally known; for it consumes the phlegmatic humour, in which most fish abound, and which greatly annoys many persons who are fond of boiled fish. Our fishmongers should at all times have a plentiful supply of this hardy and wholesome herb, every part of which agrees with the stomach.

It is one of the five opening roots: it is recommended in broth to cleanse the blood, and remove obstructions of the liver, and to clear and improve the complexion after the jaundice, and other sickness.

The seed is one of the greater carminative seeds; and, boiled in barley-water, is good

for nurses, as it is said to increase milk and make it more wholesome for the child—a virtue attributed also to the leaves. The seeds are also recommended for those who are troubled with shortness of breath, and wheezing, occasioned by stoppage of the lungs. Its leaves in decoction strengthen the sight; its juice, taken fasting, is said to cure intermittent fevers. It is a sudorific and carminative, facilitates digestion when chewed; and is a specific in malignant putrid fevers.

There is a simple water made from the leaves, and an essential oil from the seed and leaves. Neumann says, “The oil obtained from the leaves on the upper part of the plant is much finer, lighter, and more subtle, than the oil obtained from the lower leaves. The former oil swims on water, and the latter sinks. There is also a strong water, or kind of brandy, made of the seeds of fennel, called fennel water.

Snakes and serpents delight in fennel, and seem to eat it medicinally before they cast off their old skins. Pliny says, the ancient physicians observed that the serpents, having wounded the fennel stalk, cleared their eyes with the juice, and whereby they learnt that

this herb hath the singular property of cleansing our sight, and taking away the film or web from our eyes : he adds, that the only time to obtain the juice is when the stalk is nearly full grown : it was administered with honey.

Induced by these observations, the author planted fennel on a bank in his shrubbery, where he had frequently seen snakes; but for want of that time and caution, which it requires to watch these reptiles, he has never seen them bite this herb, but has often found the stalks not only wounded, but eaten nearly half through, either by these, or some other animals.

The Romans drank the seeds of fennel in wine, as a remedy for the sting of scorpions or serpents. They considered this vegetable as a sovereign remedy for the liver. The root boiled in wine was esteemed for the dropsy, as were the seeds for the stone and gravel.

Petridtus, in his work entitled *Ophiaca*, Mycton, in his treatise named *Rhizotomumena*, and Nicander, maintain, that there is not a better counterpoison against the venom of serpents than wild fennel.

In putrid fevers, attended with a malig-

mity, we shall hardly find a plant more aperitive and discussive, by means of sweat, than fennel; whence nothing can be more proper in the small-pox and measles, than a decoction of the herb, or its seeds or roots*. Ray says, fennel is excellent for preventing abortions.

Joannes Crats, physician to the Emperor of Germany, says, he saw a monk, who was cured by his tutor, in nine days, of a cataract, by only applying the roots of fennel, boiled in wine, with the decoction, to the eyes.

It is also said, that the steam of the decoction of fennel is an excellent cleanser for the eyes, and that it strengthens the sight.

Boerhaave says, that this root agrees in taste, smell, and medicinal quality, with the celebrated ginseng of the Chinese; from which, however, it appears to differ very considerably.

Pliny states, that fennel was cultivated as a garden herb by the Romans, and that it was so much used in the kitchen, that there were few meats seasoned, or vinegar sauces

* Sim. Pauli.

served-up, without it. That the bakers used it to give a pleasant taste to their bread, by placing it under their loaves, when they were put into the oven. A good house-wife, says this excellent author, will go into her herb garden, instead of a spice-shop, for her seasonings, and thus preserve the health of her family, by saving her purse.

FLAX, OR LINE.—LINUM.

Natural order, Grecinales. A genus of the Pentandria Pentagynia class.

THE Greeks called this vegetable *Aivov*, and the Latins had no other name for it than *Linum*, both in its growing state and when prepared for the spinner; hence the Italians and Spaniards have derived the word *Lino*; and the French, *Lin*. The ancient Britons called it Lyne from the same source. The word Flax is derived from the Saxon *Fleax*, or *Flex*; but we still term it Linseed and Linen cloth, although when speaking of the plant we call it Flax.

We know twenty-two species of linum, four of which are said to be indigenous to our soil.

The flax is scarcely superior in appearance to the common grass; yet on no other vegetable has the ingenuity of man been so extensively employed, or exerted with such success.

Without the aid of flax, this island might have remained unknown and unpeopled. Its assistance enabled the European sailor to discover a new world, and people to whom we must have remained strangers but for the fibres of this herb, and from whose territories we have since enriched our isle with the most useful roots, the most luxurious fruits, and ornamental plants. It was with flax that we first made wings to our vessels, with which we travelled with the swiftness of the eagle, and extended our commerce to the most distant parts of the globe.

Dædalus is said to have been the inventor of sails for ships, by which he fled from Crete, to escape from the revenge of the incensed Minos, who had condemned him to be confined in the labyrinth which he had constructed. Dædalus arrived safe in Sicily, where he was hospitably received by Cocalus, king of that island. From this circumstance the ancient allegory states, that he made himself wings. This was at least 1350 years before Christ; and we find that sails were certainly used before Homer's time, who says

—“ the winds aloud
Howl o'er the masts, and sing through every shroud.”

At that period the use of hemp was not discovered.

Flax is a slender plant, that seldom exceeds two feet and a half in height. From its fibrous bark we procure the comfort of linen, and the beauty of lace; its very rags are manufactured into the most exquisite of all our luxuries, viz. the paper that enables distant friends to hold converse, and communicates the wisdom of the learned of every age and language.

How the fibrous qualities of this plant were first discovered, it is beyond the powers of research to ascertain; probably the earliest use of this pliable plant was to twist into bands for the purpose of attaching productive vines to unfruitful trees. Thus Milton describes the employment of our first parents :

—“ or they led the vine
To wed her elm; she 'spoused, about him twines
Her marriageable arms, and with her brings
Her dower, adopted clusters, to adorn
His barren leaves.”

Book 5.

As man multiplied, the necessity of ensnaring wild animals and securing domestic ones, would naturally call his attention to the formation of a cord; and when once a

band was formed of the whole plant, it would easily be discovered that the fibres were the part that afforded the strength.

When New Holland was first discovered, it was observed that the natives, who subsisted principally on fish, had invented a kind of net made of the fibres of flax, by inserting the loops into each other without a knot; yet these people had not the least idea of forming a covering, even to protect themselves from the inclemency of the weather, and were so barbarously ignorant as not to have the least knowledge of the art of cultivating plants or fruits of any description.

The making and use of linen cloth appears to have been invented previously to the Deluge, as we read that Noah slept in a tent.*

Egypt, which appears to be the country that Ham, the second son of Noah, resorted to, from its being called in Scripture, the Land of Ham, soon became the garden of the East, and the seat of arts.

“ Israel also came into Egypt, and Jacob sojourned in the Land of Ham.”†

Ham is supposed to have led a pastoral life, but his son Misraim, who is mentioned

* Gen. c. ix. v. 21

† Psalm cv. v. 23.

in profane history by the appellation of Menès, assumed the style of king, and built the town of Memphis. His wife Isis, whom some suppose to be the same as Io, is said to have taught the art of agriculture, and employed herself diligently in cultivating the earth, for which she was deified, and the worship of Isis became universal in Egypt. The priests of this goddess were clothed in *linen* garments.

About 300 years after the flood, Abram and his family went into Egypt to avoid the famine; and on their return the following year, the book of Genesis notices, that Lot, the nephew of Abram, had flocks and herds, and *tents*.

Pharaoh arrayed Joseph in vestures of fine linen; and when Moses called down the plague of hail upon Egypt, it destroyed the flax.

“ And the flax and the barley was smitten; for the barley was in the ear, and the flax was bolled.”*

That the art of weaving had attained a wonderful perfection in Egypt in those days, we learn both from profane and sacred history.

* Exodus, c. ix. 31.

The Israelites appear to have carried the art with them when they were delivered from bondage; for they were commanded in the wilderness to make offerings for the tabernacle, of “blue, and purple, and scarlet, and fine linen, and goats’ hair.”

“Thou shalt make the tabernacle with ten curtains of fine twined linen, and blue, and purple, and scarlet; with cherubims of cunning work shalt thou make them.”*

In the 28th chapter of the same book, we have a description of the holy garments for Aaron, which were of fine linen. “And thou shalt embroider the coat of fine linen, and thou shalt make the mitre of fine linen, and thou shalt make the girdle of needle-work.”

“And all the women that were wise-hearted did spin with their hands, and brought that which they had spun, both of blue, and of purple, and of scarlet, and of fine linen. And all the women, whose heart stirred them up in wisdom, spun goats’ hair.”†

Egypt continued to be celebrated as the country of flax and linen in the days of Solomon, whose merchants traded thither

* Exod: chap. xxvi. 1. † Exod. chap. xxxv. 25, 26.

nearly a thousand years after the time that Abram visited that land.

“And Solomon had horses brought out of Egypt, and linen yarn: the king’s merchants received linen yarn at a price.”*

“I have decked my bed with coverings of tapestry, with carved works, with fine linen of Egypt.”†

The prophet Isaiah notices this manufacture of the Egyptians, about 250 years later than Solomon. This prophet menaces Egypt with a drought of so terrible a kind, that it should interrupt every kind of labour.

“Moreover, they that work in fine flax, they that weave net-works, shall be confounded.”‡

Ezekiel the prophet, in his description of the riches and the merchandize of Tyre, speaks of the productions of Egypt, about 150 years after Isaiah.

“Fine linen with broidered work from Egypt, was that which thou spreadest forth to be thy sail.”§

From the Egyptian linen, the principal garments of the priests of the heathens, as well as those of the Israelites, were formed.

* 1 Kings, chap. x. 28.

† Proverbs, chap. vii. 16.

‡ Isaiah, chap. xix. 9.

§ Ezekiel, chap. xxvii. 7.

The Eastern kings and princes were also habited in linen, therefore flax formed a considerable branch of the trade of Egypt; and their method of making fine linen, was carried to such a wonderful perfection, that the threads which were drawn out of them were almost imperceptible to the keenest eye. Pliny states, that some of the thread made from flax was finer and more even, if possible, than the web of a spider, and yet so strong, that it would give a sound nearly as loud as a lute-string. This author states in the first chapter of his nineteenth book, that he had seen an Egyptian net made of so fine a thread, that, notwithstanding every cord in the mesh was made of 150 threads twisted, yet it could be drawn through the ring of a finger. "I have known," says this writer, "one man who could carry about as many of these nets, as would encompass a whole forest." He adds, that Julius Lopus, who was governor of Egypt, possessed one of these nets; but that the most extraordinary net-work was that which was shewn in the temple of Minerva, in the Isle of Rhodes; every thread of which was twisted 365 times double, agreeably to the number of days in the year. This singularly curious

piece of workmanship had formerly belonged to Amasis, who from a common soldier became King of Egypt, about 526 years before the Christian æra.

The author has now in his possession a piece of linen cloth, which was woven in Egypt as long back as the Trojan war. It will naturally be surmised, that it is a part of the envelope of a mummy. In comparing this cloth to that of our linen of the same fineness, and examining them through a microscope, it is observed, that the warp of the ancient linen is not so close as that of the present make, but that the woof is pressed much closer: it would consequently be more durable, wear softer, and be less susceptible of soil, than modern linen cloth.

The Athenians, who were an Egyptian colony from Sais, followed the custom of their ancestors, by applying themselves to raising flax for linen cloth: they therefore worshiped Minerva, who was also styled *Ergatis*, or the workwoman, for her excellency in spinning and weaving; and who is supposed to be no other than the Egyptian Isis; for the Egyptians, to remind the people of the importance of their linen

manufactory, exposed in their festivals an image, bearing in its right hand the beam or instrument round which the weavers rolled the warp of their cloth. This image was called Minerva, from *Manevra*, a weaver's loom. The name of *Athene*, that is also given to this goddess, is the very word denoting in Egypt the flaxen thread used in their looms. Near this figure, which was intended to warn the inhabitants of the approach of the weaving or winter season, they placed another of an insect, whose industry is supposed to have given rise to this art, and to which they gave the name of Arachne, (from *arach*, to make linen cloth) to denote its application. All these emblems, transplanted to Greece, were by the genius of a people fond of the marvellous, converted into real objects, and indeed afforded ample room for the imagination of their poets to invent the fable of the transformation of Arachne into a spider. Ovid, who has set this story in a beautiful light, says, Arachne was

“ One at the loom so exquisitely skill'd,
That to the goddess she refused to yield.
Low was her birth, and small her native town,
She from her art alone obtained renown.

* * * * *

“ Oft to admire the niceness of her skill,
The nymphs would quit their fountain, shade, or hill.”

After Minerva had accepted the challenge of Arachne, the poet thus elegantly describes their work :

“ Straight to their posts appointed both repair,
And fix their threaded looms with equal care :
Around the solid beam the web is tied,
While hollow canes the parting warp divide ;
Through which with nimble flight the shuttles play,
And for the woof prepare a ready way ;
The woof and warp unite, press'd by the toothy slay.

Thus both, their mantles button'd to their breast,
Their skilful fingers ply with willing haste,
And work'd with pleasure : while they cheer the eye
With glowing purple of the Tyrian dye :
Or, justly intermixing shades with light,
Their colouring insensibly unite.
As when a shower transpierced with sunny rays
Its mighty arch along the heaven displays ;
From whence a thousand different colours rise,
Whose fine transition cheats the clearest eyes :
So like the intermingled shading seems,
And only differs in the last extremes.
Then threads of gold both artfully dispose,
And, as each part in just proportion rose,
Some antique fable in their work disclose.”

The Greeks made a linen of so fine a fabric, from the flax which they cultivated near Elis, (now Belvedere,) that it sold by weight, at the price of gold. This is the

flax which Pliny calls *Byssus*, and from which a kind of lawn or tiffany was made. The same author says, a flax is now found out which will not consume in the fire; this he calls living flax, and says, he saw at a great feast, all the table-cloths, napkins, and towels, thrown into the fire, which received a cleanness and lustre from the flames, which no water could have given it. This kind of cloth was used at the royal obsequies and funerals, to wrap round the corpse as a shroud or sheet, in order to preserve the ashes of the body from mixing with those of the wood of the funeral pile. Pliny adds, that this flax grew in the deserts of India, where the country is parched and burnt with the sun: he says, it is difficult to be found, and as hard to be woven, being in short fibres. In its natural state, the colour was reddish, but by burning it became bright: it was esteemed as precious as oriental pearls. It does not appear by this account, that the Romans were acquainted with its being a mineral substance.

The art of making this fossil linen is nearly lost, although John Baptist Porta, the inventor of the camera-obscura, assures us, that in his time (from 1445 to 1515) the spinning of

asbestos was a thing known to every body at Venice ; and it is said to be still in use by the Princes of Tartary, in burning their dead.

A handkerchief made of this substance, which Dr. Plot judges to be of a nature between stone and earth, was long since presented to the Royal Society of London. This has given several proofs of its resisting fire ; and when taken out red hot, it did not burn a piece of white paper, on which it was laid.

The asbestos is found in the island of Anglesey in Wales, and in Aberdeenshire in Scotland, in some parts of France, in Tartary, Siberia, and several other places ; and were there a demand for this incombustible cloth, or a price given equal to the trouble of manufacturing it, we should soon recover the art, and have it on sale in the shops of our metropolis.

But to return to flaxen linen : by looking back into history we shall find, that it was used for other purposes than garments at a very early period ; for the stupendous temples of the heathens, and the courts of their palaces in ancient times, were open buildings surrounded with massive columns, and ornamented with gigantic statues of their gods,

and colossal figures of their inferior deities. In these immense courts not only the inhabitants of a whole city, but often an entire kingdom assembled, to celebrate a festival, or to obey the mandate of their sovereign. As the art of weaving became more known, these gorgeous edifices were occasionally hung with rich curtains of linen cloth, to shade and protect the guest from the sun or weather. The first chapter of the book of Esther describes the feast which King Ahasuerus gave in the third year of his reign to all the princes and servants of the 127 provinces over which he reigned, from Ethiopia to India. This feast lasted 180 days, at the expiration of which he feasted all the people that were in Shusham, "both great and small," for seven days, "in the court of the garden of the king's palace," where were white, green, and blue hangings, fastened with cords of fine linen and purple, to silver rings and pillars of marble.

The Romans appear to have derived this idea from the Egyptians, as Lentulus Spinther was the first who caused the great amphitheatre at Rome to be covered with fine curtains. This was about the period when Antony was in Egypt; and Pliny observes,

that the sails of the ship in which Antony and Cleopatra came to Actium, were dyed purple.

Julius Cæsar caused the Forum at Rome to be covered with fine curtains ; as also the whole of the principal street called Sacra, from his own dwelling to the cliff of the Capitol. This sumptuous sight, says Pliny, was beheld with great wonder and admiration.

Marcellus, during his *Ædileship*, upon the calends (or first) of August, caused the Roman Forum to be hung and canopied with curtains, that those who came to plead at the bar might stand under shade. “ What a change,” says Pliny, “ since the days of Cato the Censor, who advised that the said Forum should be paved over with *caltrops*, to keep away the lawyers and busy pleaders.”

Nero caused the amphitheatre to be covered with curtains of a sky-blue, spangled with stars.

We now see the rustics of our own country enjoying their pipe and their ale beneath the linen canopy in a rural fair, as proud of their liberty as the Eastern monarchs were of their temples, or the Romans of their dictatorship.

“ Tis liberty that crowns Britannia’s isle,
And makes her barren rocks and her bleak mountains
smile.”

ADDISON.

Spain was celebrated for her manufactory of linen as early as the birth of Christ. The Spaniards were the inventors of fine Cyprus or clear lawn, which was made from the flax of Arragon and Catalonia. France then produced a flax from which sails were made: Holland and Flanders produced linen cloth at the same period. The Germans of those days carried on the spinning and weaving of linen in vaults and caves under ground, which was also the practice of the people of Lombardy in the time of Pliny.*

The fine muslins of the East Indies were also made by persons kept under ground, who were never allowed to see the light. Children were entombed from their infancy in these dark abodes, in order to gratify the vanity of the wealthy with a finer thread than could be drawn by the eye that was blessed with the sight of day. Our East India Company has suppressed this subterraneous weaving. The art is now happily lost, and no Christian can wish its revival.

Linen was not worn by the Hebrews,

* Book xix. c. 1.

Greeks, or Romans, as any part of their ordinary dress: their under-tunics were made of fine wool or hair; and hence arose the occasion for frequent bathing. It has been observed that the introduction of linen shirts has been found to lessen the prevalence of leprosy.

The Emperor Alexander Severus, who was murdered in the year 235 A. D. was the first person who wore a linen shirt: but the general use of so necessary a garment did not become common till long after him.

The making of linen cloth in England was probably introduced by the Romans, who certainly cultivated flax in this country.

Before Britain had become so great a commercial nation, each town or village had its weaver, and every good housewife was expected to furnish her family with linen of her own spinning. The farmers' daughters were early instructed in this art, and their female domestics filled up all their vacant hours at the distaff or wheel. Tusser, in his advice to the farmer, for May, says,

“Good flax and good hemp, for to haue of hir owne,
In May a good huswife wil see it be sown:
And afterward trim it, to serue at a need,
The fimble to spin, and the carle for his seed.”

In the same author's directions for July, he says,

“ Now pluck up thy flax, for thy maidens to spin,
First see it dried, and timely got in.”

Flax has for many ages employed and enriched the French nation. Their city of Cambray first manufactured that beautiful linen called from thence Cambric, for purchase of which, England for many years contributed not less than 200,000*l.* per annum.

In the reign of George the Second several salutary laws were enacted to prevent this great loss of our wealth; and an Act passed in the 4th of George the Third, c. 26, to regulate the cambric manufactory, not long before introduced into Winchelsea in Sussex, but which soon failed, and was abolished. Laws have been made to prevent the selling and wearing of French cambrics and lawns in England, but which have only established their fame as being superior to our own.

The fine fibres of this plant have also afforded the French, as well as the Flemings, a valuable article for commerce in their lace of Brussels, Valenciennes, Lisle, Mechlin, Normandy, &c. Our legislators have laid heavy fines and duties to prevent the importation of this article of luxury, but with

little success, for while it is admitted at court, it will naturally be seen in private society. Flax is not known in China.

From the seeds of this vegetable is drawn linseed oil, so useful to our house painters and other artists.

“Whether their hand strike out some free design,
Where life awakes, and dawns at every line,
Or blend in beauteous tints the colour’d mass,
And from the canvass call the mimic face.” POPE.

The seeds are esteemed an excellent emollient and anodyne: they are used externally in cataplasms, to assuage the pain of inflamed humours: internally, a slight infusion of linseed, by way of tea, is recommended in coughs as an excellent pectoral, and of great service in pleurisies, nephritic complaints, and suppressions of urine. Cold-drawn linseed oil is of great service in all diseases of the breast and lungs, as pleurisies, peripneumonies, coughs, asthmas, and consumptions. It likewise helps in the colic and stone.*

In pleuritic pains, says Raygerus†, I have often experienced linseed oil to be the most successful medicine I could prescribe; for it immediately facilitated respiration, and promoted spitting. In hæmoptoe, also, I ex-

* James.

† Germ. An. 6 & 7.

hibited the same oil with the desired success ; for, by its balsamic and emplastic virtue, it consolidates the affected parts.

The oil, boiled with honey, clears the face and skin of spots, and all cutaneous blemishes.*

Linseed oil consists of parts so subtile, that it cannot be kept in earthen vessels, without transudation.

The lint made from linen rags has ever been in great use in surgical cases, from its softness, smoothness, and flexibility ; whereas that made from cotton can never be used about wounds, on account of its denticulated parts, which dispose to inflammation.†

Formerly the seed of the flax was occasionally used with corn to make bread, but it was considered hard of digestion, and hurtful to the stomach. In a scarcity of corn which happened in Zeland in the sixteenth century, the inhabitants of Middleburgh had recourse to linseed, which they made into cakes, and which caused the death of many of the citizens who ate of it ; causing dreadful swellings of the body and face.

* Hist. Plant. ascript. Boerhaave.

† See the cause of this under the article Cotton, p. 169.

Pliny informs us, that the peasants in Lombardy and Piedmont had formerly used as food, a sweet kind of bread or cakes made from this seed, but which in his time was only used in their sacrifices to the gods.

The quantity of linseed annually imported into these kingdoms, was, in the year 1780, estimated to be not less than 240,000 bushels.

There is an act of parliament now in force, which forbids the steeping of flax in rivers or any waters where cattle are accustomed to drink, as it is found to communicate a poison destructive to the cattle which drink of it, and to the fish in such waters.

GINGER.—AMOUM ZINGIBER.

Natural order, Scitamineæ, and of the Mon-andria Monogynia class.

ZINGIBER, by the Greeks called Σιγιβερ, took its name from the Indian word Zengebil.

This acrid spicy-rooted plant is a native of the East Indies. It grows naturally on the coast of Malabar, in Bengal, and at Ceylon; the Indians call it *Zingibel*.

It appears also to be indigenous to China, where it grows wild, and is cultivated to a great extent, particularly in the environs of Gingi, from whence, in all probability, it derived its name of Ginger.

This plant was introduced into New Spain by a person named Francisco de Mendoza; from whence, most probably, it was carried to the West India Islands, where it now grows (particularly in Jamaica) so plentifully, even in a wild state, as to induce a belief that it was indigenous to the soil. Since its intro-

duction to Jamaica, says Lunan, it has become an article of considerable export; for which purpose it has been generally cultivated.

It is calculated that the quantity of this root consumed in Europe, is about one million of pounds annually.

Ginger was known in England in Queen Elizabeth's reign, as Gerard says; "Our men which sacked Domingo in the Indies, digged vp ginger there in sundry places wilde." This author adds, "Ginger groweth in Spaine, in the Canarie Islands, and the Azores. Ginger," he continues, "is most impatient of these our northern regions, as myselfe haue found by proofe; for that there haue been brought vnto me at seuerall times, sundry plants thereof, fresh, greene, and full of iuice, as well from the West Indies, as from Barbarie and other places, which haue sprouted and budded foorth greene leaues in my garden in the heate of somer; but as soone as it hath bin but touched with the first sharp blast of winter, it hath presently perished both blade and roote."

It appears to have been known in London about the year 1566 or 7, and was evidently introduced by the Dutch; as Gerard states,

that about 30 years or more before he published his account (1597), “ an honest and expert apothecarie William Dries, to satisfie my desire, sent me from Antwerpe to London, the picture of ginger, bicause I was not ignorant, that there had been oft ginger rootes brought, green, new, and full of iuice, from the Indies to Antwerpe: and further, that the same had budded and growne in the said Dries’ garden.”

The following manner of preparing it in Jamaica is extracted from Long’s History:

“ It is propagated by the smaller pieces, prongs, or protuberances of the root, each of which throws up two different stems: the first bears the leaves, and rises to the height sometimes of three feet or upwards; but its usual growth seldom exceeds eighteen inches. It thrives best in a rich cool soil; and therefore what has been recently cleared from wood, is well adapted to the culture of it, more especially as it is supposed to be a great impoverisher of land. In such a soil it grows so luxuriantly, that a hand, or a large-spreading root, will weigh near a pound. It is however remarked, that what is produced from a clayey tenacious soil, shrinks less in scalding; while such as is raised

in richer black moulds, loses considerably in that operation. The land intended for the cultivation of it, is first well cleansed with the hoe, then slightly trenched, and planted about the month of March or April. It obtains its full height, and flowers about August or September, and fades about the close of the year. When the stalk is entirely withered, the roots are in the proper state for digging. This is generally performed in the month of January and February. After being dug, they are picked, cleansed, and gradually seethed or scalded in boiling water; they are then spread out, and exposed every day to the sun till sufficiently dried; and after being divided into parcels of about one hundred each, they are packed up in bags for the market: this is called the black ginger. The manner of scalding the roots is as follows: a large pot or copper is fixed in the field, or some convenient place, which is kept full of boiling water; the picked ginger, being divided into small parcels, is laid in baskets, and plunged alternately in the water, where it is suffered to stay for the space of ten or fifteen minutes; it is then spread on a platform for drying; but care is taken, during the process, to change the water as soon as it

becomes much impregnated with the juice of the root.

“ The white sort differs but little from the black roots. The difference arises wholly from the methods of curing them. The white is never scalded ; but instead of this easy process, they are picked, scraped, and washed, one at a time, and then dried ; all which requires too much pains and time for any real advantage to be gained in the properties ; though, being made more agreeable to the eye, the price of the white is much higher at market.

“ When roots are intended for sugar-preserve, they are dug while tender and full of juice ; the stems at this time rarely exceed five or six inches in height ; the root is carefully picked, washed, and afterwards scalded till it is sufficiently tender ; it is then put in cold water, and peeled and scraped gradually. This operation may last three or four days, during which it is commonly kept in water, and the water frequently shifted, as well for cleanliness as to extract more of the native acrimony. After this preparation it is laid in unglazed jars, and covered with a thin syrup, which in two or three days is shifted, and a richer put in : this is sometimes again

removed for a third, or fourth; but more than three are seldom requisite. The shifted syrups are not lost; for, in Jamaica, they are diluted with water, and fermented into a pleasant liquor, called cool drink, with some mixture of the chaw-stick, *lignum vitae*, and sugar.

“ This root, however, either in its natural state or candied, is esteemed a good remedy against the cholic, loosenesses of the belly, and windy disorders. It strengthens the stomach, helps digestion, and is often added as a corrector to purges; its use in culinary preparations is well known.” *

The roots of ginger appear to be much less liable to heat the constitution than might be expected from its penetrating warmth and pungency of taste. It gives out the whole of its virtue to rectified spirit, and great part of it to water. The spiritous tincture, inspissated, yields a fiery extract, smelling moderately of the ginger. A syrup made from an infusion of three or four ounces of the root, in three pints of boiling water, is kept in the shops. The cases in which ginger is more immediately serviceable, are flatulent cholies, debility and laxity of the system, and in tor-

* Long, p. 700.

pid and phlegmatic constitutions, to excite a brisker action of the vessels.

A limpid red transparent oil, swimming on water, is by simple distillation, got out of these roots, agreeing in smell and taste with ginger, only more mild. Dr. Wright says, that ginger is good in baths and fomentations ; in complaints of the viscera, pleurisies, and obstinate continued fevers. Infused in rum or wine, with filings of steel, it is also said to be useful in obstructions.

Ginger tea has been recommended in gouty cases. The mode of making it is by pounding the dried roots in a mortar. Begin with a heaped tea-spoonful, taken in boiled milk, either for supper or breakfast ; the quantity may be increased to two, or even three drachms. These directions were given by Dr. Wright, to whom Sir Joseph Banks gave the following account of its effects upon himself, in 1784 : "I have taken two tea-spoonfuls heaped up of ginger powdered, in a pint of milk, boiled with bread and sweetened with sugar, for breakfast, for more than a year past. The weight of the ginger is between two and three drachms. At first, this quantity is difficult to swallow, *if the ginger is good.* I was guided in the quantity

by the effect it had on my stomach ; if it made me hiccup, the dose was too large. I found occasionally, that it produced *ardor urinæ* ; but this went off without any ill consequences whatever. I have not yet found it necessary to increase the dose ; but I use rather a coarser powder than I did at first which mixes more easily with the milk, and probably produces rather more effect than the fine."

" The late Lord Rivers took ginger in large doses, for more than thirty years, and at eighty was an upright and healthy old man.

" I have, since I used the ginger, had one fit of the gout ; but it was confined entirely to my extremities, and never assailed either my head, my loins, or my stomach, and lasted only seventeen or eighteen days ; but the last fit I had before I took the ginger, affected my head, my stomach, and my loins, and lasted, with intervals, from the end of October to January."*

The roots preserved or candied are an excellent stomachic, and comforting ; boiled in wine, with a little cummin seed, ginger eases the pain of the stomach, and causes sweat ;

* Sinclair's Code of Health, vol. i. page 233.

outwardly applied, mixed with cocoa-nut oil, draws out poisons in wounds ; and rubbed upon the stomach, comforts it, and eases pains arising from a cold cause.*

The Indians, as well as the Chinese, eat the root when green by way of salad, chopping it small, and mixing it with herbs. Well made ginger-bread is both agreeable and wholesome, and many excellent receipts may be found for making it, in the Domestic Cookery, and other receipt-books, as well as for making ginger-beer and ginger-wine—drinks which have lately been very properly introduced for the warm season of the year.

Green ginger, preserved with sugar, is proper for old persons, and those of cold and phlegmatic constitutions, especially when it is new ; it is also good for viscid phlegm in the lungs.†

Ginger is good for the stomach, thorax, and the other viscera ; restores lost appetite, and resists the putrefaction and malignity of the humours.‡

Ginger absterses and dissipates infractions of the stomach and lungs, by consuming the superfluous humours, and comforts

* Barham, p. 63.

† James.

‡ Dale.

and strengthens the brain and memory: it is also of service in dulness of sight, proceeding from humidity.

“ This root,” says Dr. R. James, “ as well as pepper, is more used in culinary than medicinal preparations; because, among all spices, these two have very much of an acrimonious, and but little of an aromatic quality.” Galen infers, that ginger is not of so fine parts as pepper, because its heat, though equally strong, is not so soon felt, but lasts longer; hence, he concludes ginger to be of a grosser and more humid or aqueous substance.

HEMP.—CANNABIS.

Natural order, Scabridæ. A genus of the Diæcia Pentandria class.

THE Latin name of this plant is the same as the Greek Κανναβεῖς, from Κανναβοῖ, because it prospers best near watery places.

That this fibrous plant is indigenous to most of the European countries, as well as to Asia Minor, we have the authority of ancient authors, in opposition to the statements of some of our modern botanists, that it is a native plant of India only. Some of our Encyclopædias state, that the ancients used hemp only medicinally. Pliny is cited as their authority. In his 19th book, chapter 9. however, he informs us that hemp is equally good for making cordage; that the best for the purpose of making nets, and snares for wild beasts, was grown in Alabanda; and that the second in quality grew near Mylasium, both towns of Caria.

As a Phœnician colony settled there, it is probable that these people, so celebrated for their achievements in navigation, were the first who discovered the use of hemp in forming cables and tackle for their ships. They were in ancient times what the Britons are at present. Isaiah calls their country “the merchant city, the mart of nations, whose merchants are princes, whose traffickers are the honourables of the earth.”

Pliny states, that the hemp which grew in some parts of Italy, and near Rosea in the Sabines’ country, grew as high as shrubs; that it originally grew there in the very woods, without even sowing. It appears by the account of this author, that the Romans gathered the seed before the stalks, as he says the seed should be sown in February, and that the thicker it is sown, the finer the hemp grows. When the seed ripened in the autumn, it was rubbed out and dried in the sun, the wind, or in smoke, and the stalks were not plucked out of the earth, until after the vintage. “It is then,” continues he, “the work of the husbandman to peel and cleanse it, which these people do in the evening by candle-light.” It appears to have been diligently sorted; as this great observer

of natural productions says, the worst part of hemp is next to the bark or rind ; the principal part, and that of the best quality, was called *Mesa*.

Although we do not produce lawn or lace from the fibres of hemp, yet it is a plant of great importance to Britons, as it forms the sails and tackle of our vessels, from the huge cable of a ship of war, to the more humble, but not less profitable net of the herring-boat.

The sails and cordage of a first-rate man-of-war, require 180,000 pounds of rough hemp for their construction ; and it is said to average five acres of land to produce a ton of hemp : thus one of those monstrous towers of human ingenuity, that

“ Stems the vast main, and bears tremendous war
To distant nations, or with sovereign sway
Awes the divided world to peace and love,”

consumes a year’s produce of 424 acres of land to furnish its necessary tackle.

From this calculation it will be seen that Great Britain could not furnish itself with a sufficient quantity of hemp of her own growth to supply the immense demands of our shipping.

In the year 1763, we imported 11,000 tons from Russia; and Sir John Sinclair informs us, that in the year 1785, the quantity exported from St. Petersburg, in British ships, amounted to 17,695 tons, which would be the produce of 88,475 acres of land. In the year 1788, we imported from Russia 58,464 tons, the produce of nearly 300,000 acres, which at 20*l.* per ton, would net the Russians 1,269,280*l.* In the year 1783, France consumed 200,000 tons of hemp, of which more than one third was imported.

An act strongly demonstrating the folly of laying prohibitions on articles of commerce, (which often strengthens those whom it intends to disable,) was committed by the Russians, in the year 1718, when they entered into a combination with the Swedes to deprive England of naval stores; and would suffer none to be exported out of their own dominions, but in their own ships, and at their own exorbitant prices; which instead of ruining our trade and navigation, turned our attention to our colonies, and induced us to procure from North America not only a sufficient supply for the use of Great Britain, but a large surplus for exportation.

Our government, fully aware of the important uses of hemp, has made several salutary laws, to render its culture an object of attention. In the year 1787, a bounty of three pence per stone, was allowed on all hemp raised in England, and duties have been laid on all that is imported.

China is celebrated for its abundance of hemp, particularly in the province of Xensi; but flax is not known to grow in that empire. The excellence of the Chinese hemp was noticed by Niehoff, who attended the embassy which the Dutch East India Company, sent to Pekin in 1655 and 6. From this embassy more information is obtained on the policy and natural history of China, than from any accounts since published of our own embassies: whether this is owing to the limited observation of our naturalists, or to the jealous restrictions of the Chinese, we cannot decide.

The late Mr. Elliot sent some seeds of the Chinese hemp to Mr. Fitzgerald, vice-president of the Society for Encouragement of Arts: which being sown, produced plants fourteen feet high, and nearly seven inches in circumference. This induced Mr. Fitzgerald to apply to the Directors of the India

Company, to obtain some of the seeds from China, which were procured in 1785; but few of the plants ripened their seed in this country. Dr. Hinton made a more successful trial of raising the Chinese hemp in 1787, which produced one-third more of marketable hemp than the best English hemp was ever known to yield on the same quantity of ground. Few of the hemp-seeds will vegetate if two years old; to this circumstance may be attributed the failure of many attempts to raise this new variety of hemp.

The English hemp is much superior in strength to that which grows in any other country. Suffolk is the principal county where hemp is grown and manufactured; this is seldom or ever used for cordage. The cloth made from this hemp is more durable than the flaxen linen, as well as warmer; and has the advantage of becoming whiter by age and use than that made from flax, which will not maintain its bleached whiteness.

We import a considerable quantity of sheeting from Russia, which has this great advantage over our own hempen cloth, that, being drawn from the distaff, the fibres are

longer and less crossed than those in the thread made by machinery.

Tusser gave this valuable hint to the farmers in Queen Mary's time :

“Where plots full of nettels be noisom to eie,
sow thereupon hemp-seed, and nettels wil die.”

We cannot but observe, that with all the improvements in the cultivation of this country since the days of that author, there are still to be seen many wide hedgerows that are the nursery of thistles and other impoverishing weeds, which might turn to good account if sown with hemp, particularly if they were allowed to be planted by the poor cottagers, either with this valuable vegetable or the more necessary root of the potatoe. These poor parishioners would then have an interest in keeping off predators, and in protecting the fences instead of destroying them ; their leisure would be spent in their own little territory instead of the ale-house, and their children would acquire early habits of industry in tilling a plot for themselves.

It is observed by the Rev. Thomas Radcliff, in his Report on the Agriculture of Eastern and Western Flanders, “that each day-labourer has, in most cases, a small quan-

tity of land, from a rood to half an acre, for his own cultivation." He adds, "Their comfortable supply of linen is remarkable; there are few of the labouring classes without many changes. In riding with a landed proprietor through a part of the country in which his property was situated, a neat cottage presented itself: the clipped hedge which surrounded the garden, covered with linen, very white, suggested an inquiry, 'whether it did not belong to a washerwoman?' The answer was, that it was occupied by a labourer and his family, and that the linen was all their own. In common times a beggar is scarcely to be seen, except in the towns, and but few there."

Every circumstance that is connected with the comforts of the lower classes, and every device that can be invented to keep them from receiving parochial relief, should be adopted; for when once they have become familiar to this aid, their natural pride forsakes them, and few are the instances of their ever endeavouring to become independent of the agriculturist, on whom they now weigh so heavily as to endanger the prosperity of their support.

Frugality disappears the moment the la-

bouer cannot obtain a living on his own personal exertions; and to economize, when they once use the public purse, seems against the nature of their mortified spirit.

Hemp is said to possess a property which renders it almost invaluable to the farmer as well as the gardener: viz. that of driving away all insects that feed upon other vegetables. It is a common practice in many parts of the Continent to sow a belt of hemp round their gardens, or any particular spot where they wish to preserve their crops from the mischievous attacks of flies or caterpillars. We would wish this experiment to be frequently made in turnip fields; for, should it succeed in protecting those crops from the ravages of flies, as well as the cabbages from the caterpillar, it would accomplish a most desirable end.

It is presumed that Tusser made his observation, that, where nettles will grow, hemp will thrive and destroy the nettle, from the opinion of the ancients as to assimilated juices, an opinion really not deserving the contempt it is generally treated with by planters. Plants requiring the same nourishment never thrive in neighbourhood, and the hemp is nearly allied to the nettle; from the

latter plant a tolerably good linen may be made.

It will generally be observed, that nettles occupy a good soil, which might be advantageously metamorphosed into plots and banks of hemp.

A Sussex manufacturer, who wrote on this article in the Annals of Agriculture, informs us, that hemp may be raised for many years successively on the same ground, provided it be well manured. The quantity of seed required to sow an acre of ground, varies from nine to twelve pecks, according to the nature of the soil; the quality of the hemp also differs with the soil. The common height of the plant is from five to six feet. Mr. Arthur Young informs us, that in his tour through Catalonia in Spain, he saw extraordinary crops of hemp, where the land was well watered, and that these plants were seven feet high. The hemp that is cultivated near Bischwiller, in Alsace, is often more than twelve feet high, and upwards of three inches in circumference.

From the class in which this plant is arranged in botany, it will be observed, that the same seeds produce both male and female plants promiscuously: this is one of

the secrets, in the work of Nature, which cannot be accounted for. The Date has the same peculiar quality ; for, when we plant the kernel of this fruit, it is uncertain whether the offspring will be a male or female palm-tree.

The flowers of the fruitful hemp are hermaphrodital, and, like the lofty palm tree, or some of the lowly strawberry plants, produce abortive seed, without the aid of the farina of the barren plant. It is a curious misappellation of the cultivators of hemp, who call the fruitful plants male, and those that are barren female ; we are more surprised that botanical writers should fall into the error, or, rather, copy this blunder from one work into another for so many ages, without correcting a mistake that inverts the order of Nature.

The unfruitful plants are forwarder than the fruitful ones by a month : this is ascertained by the fading of the blossoms, the falling of the farina fecundans, and the stalks becoming of a yellowish cast. These plants should be drawn out and worked, if possible, while green, the hemp being then finer than that which is previously dried. The Abbé Bralle, in a Treatise upon the Culture and

Management of Hemp, directs, that little paths should be made lengthways through the fields, at about seven feet distance from each other, to allow a passage for the person who pulls up the unfruitful hemp from among the other, which requires to stand more than a month after the barren plants to ripen its seed. The fibres of the hemp are prepared for spinning, by a similar process to that of preparing flax. The beating of hemp, which was formerly performed by hand, is now done by a water-mill, which raises heavy beaters, and only requires the assistance of a boy to keep it turned. This laborious work was formerly imposed as a punishment for vice, in the houses of correction. Hogarth has noticed this circumstance in one of his celebrated pictures.

It is a duty incumbent on society, not to allow hempen rags, or even old ropes, to be destroyed. They are carefully sorted by the paper-maker, the finest being reserved for the purposes of literature and correspondence, while inferior sorts are selected for the various purposes of packages and paper-hangings.

The seed of hemp, being boiled in milk till it cracks, is accounted good for old

coughs, and a specific for the jaundice.* Dodoens says, that, in his day, the hemp-seed, stamped and taken in white wine, was highly commended as a remedy for the jaundice and complaints of the liver.

The juice of the green plant, instilled into the ears, mitigates the pains therein.†

Coles, in his excellent History of Plants, notices the virtues of hemp thus laconically : “ By this cordage ships are guided, bells are rung, beds are corded, and rogues are kept in awe.”

* Miller's Bot. Off. † Dioscorides, lib. iii. cap. 165.

HOP.—HUMULUS.

*Natural order, Scabridæ. A genus of the
Diæcia Pentandria class.*

“ Lo, on auxiliary poles, the hops
Ascending spiral, ranged in meet array.”

PHILLIPS’s *Cider.*

THE generic name of this plant is derived from *humus*, moist earth or ground, because the plant thrives best in such soil, but this word is of modern origin, as is the Greek word $\beta\rho\mu\sigma$, and $\beta\rho\mu\omega\sigma\alpha$, *Bryonia*, Bryony, from the form of the leaves and running of the branches, which somewhat resemble this latter plant. It seems to have been unknown to the ancient Greeks, as it is unnoticed by their authors; and Pliny is the first of the Romans who makes mention of this plant. He calls it *Lupulus Salictarius*, as is supposed, from its climbing upon sallows and other trees. This author informs us, that the ancients made no use of the flowers, excepting to ornament their gardens; but that the

Romans in his time ate the young tops as a vegetable, which are, says he, more palatable than nutritious.

Lobel called this plant *Vitis Septentrionalium*, the Vine of the northern regions, because we put hops in our malt drink.

The hop, of which there is but one species discovered, is an indigenous plant of this country, although it is generally stated to have been first brought to this kingdom from the Netherlands, in the year 1524. It is probable that the Dutch gardeners, who came to England in the reign of Henry the Eighth, might have brought over some hop-plants, with other roots and seeds, and that we availed ourselves of their manner of cultivating this bitter herb. From them, it appears, we also derived the name, which, in High Dutch, is *Hopffen*; and *Hoppe*, *Hop*, and *Hopcruyt* in Dutch.

The first English treatise written expressly on the culture of hops, was by Reynolde Scot, printed in 1574, in 63 pages, black letter, entitled, "A perfite platforme of a Hoppe Garden." He complains that "the Flemmings envie our practice herin, who altogither tende their owne profite, seeking to impownde us in the ignorance of our com-

modities, to cramme us with the wares and fruities of their countrie, and to doe anye thing that myght put impediment to this purpose, dazeling us with the discommenda-
tion of our soyle, obscuring and falsifying the order of this mysterie, sending us into Flaunders as farre as Poppering, for that which we may finde at home in our own banksides."

Tusser, who resided in Essex during the reigns of Henry the Eighth and his three children, has left us a faithful account of the manner of treating the hop in his day ; his verse for the month of June, says

" Whom fansie perswadeth, among other crops,
to have for his spending, sufficient of hops :
Must willingly follow, of choises to choose,
such lessons approued, or skilful do vse.

Ground grauellie, sandie, and mixed with cliae,
is naughty for hops, any manner of waie :
Or if it be mingled with rubbish and stone,
for driness and barrenness, let it alone.

Choose soile for the hop, of the rottenest mould,
well doonged and wrought, as a garden plot should :
Not far from the water, (but not overflowne)
this lesson well noted, is meet to be knowne.

The sun in the south, or else southlie and west,
is joy to the hop, as welcommed ghest :
But wind in the north, or else northerly east,
to hop is as ill, as a fray in a feast.

Meet plot for a hopyard, once found as is told,
 make thereof account, as of jewel of gold :
 Now dig it and leave it, the sun for to burne,
 and afterwards fence it, to serue for that turne.

The hop for his profit, I thus do exalt,
 it strengtheneth drinke, and fauoureth malt :
 And being wel breued, long kep it will last,
 and drawing abide, if ye draw not too fast.

For January.

If hopyard or orchard, ye mind for to haue,
 for hop poles and crotches, in lopping go saue :
 Which husbandly saued, may serve at a push,
 and stop by so hauing, two gapes with a bush.

Remember thy hopyard, if season be drie,
 Now dig it and weed it, and so let it lie :
 More fennie the laier, the better his lust,
 more apt to bear hops, when it crumbles like dust.

For March.

In March at the furthest, drie season or wet,
 hop roots so wel chosen, let skilful go set :
 The goeler and yonger, the better I loue,
 wel gutted and pared, the better they proue.

Some laieth them crossewise, along in the ground,
 as high as the knee, they do couer up round :
 Some pricke vp a sticke, in the midst of the same,
 that little round hillocke, the better to frame.

Some maketh a hollowness halfe a foot deepe,
 with fower sets in it, set slantwise asleepe :
 One foote from another, in order to lie,
 and thereon a hillocke, as round as a pie.

Fiue foot from another, ech hillocke would stand
as straight as a leuelled line with the hand :
Let euery hillocke be fower foot wide,
the better to come to on euery side.

By willowes that groweth, thy hopyard without,
and also by hedges, thy meadowes about :
Good hop hath a pleasure to climb and to spread,
if sunne may haue passage, to comfort hir head.

For the month of April the same author
continues,

Get into thy hopyard, with plentie of poles,
amongst the same hillocks, diuide them by doles :
Three poles to a hillocke (I pass not how long)
shall yield thee more profit, set deeply and strong.

For May.

Get into thy hopyard, for now it is time
to teach Robin hop on his pole how to clime :
To follow the sunne, as his property is,
and weed him and trim him, if aught go amis.

For August.

If hops do look brownish, then are ye too slow,
if longer ye suffer those hops for to grow :
Now sooner ye gather, more profit is found,
if weather be fair, and dew off the ground.

Not breake off, but cut off, from hop the hop string,
leauue growing a little, again for the spring :
Whose hil about pared, and therewith new clad,
shal nourish more sets, against March to be had.

Hop hillock discharged of euery let,
see then without breaking each pole ye out get :
Which being intangled aboue in the tops,
go carrie to such as are plucking of hops.

Take soutage or hair (that covers the kel)
set like to a manger, and fastened wel :
With poles vpon crotches, as hie as the breast,
for sauing and riddance, is husbandry best.

Some skilfullie drieth their hops on a kel,
and some on a soller, of turning them wel ;
Kel dried wil abide foul weather and faire,
where drying and lying in loft doo despaire.

Some close them vp drie, in a hogshead or fat,
yet canuas or soutage, is better than that:
By drying and laying, they quickly be spilt,
thus much haue I shewed, do now as thou wilt.

Gerard, who wrote on this plant in 1596, says, " It ioyeth in a fat and fruitful ground : it prospereth the better by manuring. The flowers of hops are gathered in August and September, and reserued to be vsed in beere. The manifold virtues in hops do manifestly argue the holsomnesse of beere above ale ; for the hops rather make it phisicall drinke to keepe the body in health, than an ordinarie drinke for the quenching of our thirst." He adds, " The flowers are vsed to season beere or ale with, and overmany do cause bitterness thereof, and are ill for the head.

The flowers make bread light, and the lumpe to be sooner and easilier leuened, if the meal be tempored with liquor, wherein they haue beene boiled. The buds or first sprouts which come foorth in the spring, are vsed to be eaten in sallads, yet are they more toothsome than nourishing."

The earliest writer who speaks fully on this plant, is D. Rembert Dodoens, professor at Leyden, and physician to Charles the Fifth, who, when he had resigned his Imperial honours, endeavoured to quiet his mind by cultivating his garden, in the monastery of St. Juste, on the borders of Castile. Dodoens's Herbal mentions the two varieties of hops; "the wild hedge hop, and the manured, the bells or bunches (flowers) of which, when ripe, have a very strong smell, and are collected by the brewers of ale and beer, who keep them together, to give a good relish and pleasant taste to their drink. The cultivated hop, he says, is planted in gardens and places fit for the purpose, where it windeth itself about poles; the wild hop groweth in fields, and in herb gardens, as its tender shoots, before they produce leaves, are eaten in salads, and are a good and wholesome meat." This physician says, "the de-

coction of hops, when drunk, opens the stoppings of the liver, the spleen or milt, and purgeth the blood from all corrupt humours, principally by urine ; it is therefore good for those of gross scorbutic habits." He adds, " that the young shoots, eaten as salad in the month of March, have the same virtues, and that the juice of hops is a great purifier of the blood."

Haller, from Isidorus, says, that the first experiment of putting hops into beer, was made in Italy. It does not appear that they were used by the English, in the composition of malt liquor, until after Henry the Eighth's expedition against Tournay, about the year 1524. We therefore conclude, that the art was learnt during that enterprise. In the following reign, hops are first mentioned in our statute book, viz. in the year 1552 (5 and 6 Edward the Sixth, cap. 5.), and by an Act of Parliament of 1603, the first year of James the First (cap. 18), it appears, that hops were then produced in considerable quantity in England. But this vegetable-bitter has been subject to caprice, as well as other plants ; for, an opinion prevailing that hops possessed deleterious qualities, the City of London petitioned Parliament, to prevent

their being put into beer.* The use of them was, therefore, forbidden by an Act of Parliament, in the reign of James the First. This act was little attended to, and, never having been repealed, is strongly contrasted by the Act 9 Anne, cap. 12, which inflicts a penalty of twenty pounds on all brewers who shall use any other bitter than that of hops in their malt liquors ; and to prevent their being adulterated by giving them scent or colour by drugs, an Act was passed in the 6th of George the Third, which makes it a forfeiture of five pounds per hundred weight to use this deception ; and by the same act, the maliciously cutting hop-bines growing on poles in any plantation is made felony, without benefit of clergy.

The hop is the only native plant that is under the control of the Excise. By 9 Anne, cap. 12, a duty of one penny per pound was laid on all hops growing in Great Britain and

* Walter Blith says, in his third edition of “ English Improver Improved” (1653), “ It is not many years since the famous city of London petitioned the Parliament of England against two anusancies, and these were Newcastle coals, in regard of their stench, &c. and hops, in regard they would spoil the taste of drink, and endanger the people.”

made fit for use ; and all hop-grounds were required to be entered, on pain of forty shillings per acre. In the same act an additional duty of three-pence per pound was laid on all hops imported, over and above other duties ; and hops landed before entry and payment of duty, or without warrant for landing, are, by that act, to be forfeited and burnt ; the ship also to be confiscated, and the person concerned in importing or landing, to forfeit five pounds a hundred weight.

Hartlib, in his Complete Husbandman, (1659,) says, “ that in Queen Elizabeth’s time we had hopps from the Low Countries, and that the Frenchman, who writes the Treasure Politick, saith, that it’s one of the great deficiencies of England, that hopps will not grow, whereas now it is known that they are the best in the world.” However, we find that they were imported, occasionally, as late as the year 1695 ; for 510 cwt. were then brought from Flanders and Holland.*

Coles notices, in his Paradise of Plants, (1657,) “ That hops grow in great plenty in Kent and Essex, where there be men of good worth, whose estates consist in hop-grounds.”

* Hought. 2. 458.

Lord Bacon says, “ The planting of hop-yards is profitable for the planters, and consequently for the kingdom.” Mortimer observes, that in Kent they plant their hop-gardens with apple-trees and cherry-trees between.

The grower of hops is obliged to keep scales and weights for the use of the Excise; and to remove them before being weighed, subjects him to severe penalties: they must also be packed in bags called pockets, and the weight, with the planter’s name and abode, marked on them, with the date of the year in which the hops were grown: to alter or obliterate this mark, subjects the offender to a fine of ten pounds: by application to the Excise, they are allowed to be packed in casks under the same regulation.

The cultivation of hops in this country is nearly confined to the southern counties, of which Kent is the principal; although the hops of Farnham in Surrey, bring the highest price in the market, and next to them the Sussex hops are generally esteemed; the former owe their superiority solely to the excellent mode of picking, and not to any physical advantages. The Worcester hops are the mildest, and possess the peculiar pro-

perty of bringing beer to maturity before any other.

Hops seem the most uncertain and precarious crop on which the husbandman bestows his labour. The expense of planting and manuring, added to that of the poles, the gathering, and drying, is so considerable, that the planter is only repaid by those occasionally abundant crops which favourable seasons produce. An extraordinarily good crop returns to the planter about 100*l.* per acre, of which must be deducted on the average 50*l.* per acre for expense; but when the uncertainty of a crop, and the many combinations that are required to produce so good a one, are considered, it seldom happens that the hop-planter is richer than his neighbour, notwithstanding these brilliant returns, that too often delude the unwary and unthinking speculator.

The plants are often injured by the frost in the spring, and they are also subject to various other casualties. A kind of mildew or blight, producing flies, frequently destroys the fairest promise of this plant, and from the height of the poles and the sail they carry, a high wind occasions great havock in the hop-gardens. We are not

aware of the experiment having been made of keeping them closer to the ground in the manner of a vineyard, or by espaliers; but by some observations which the author has made on a few plants which he cultivated for ornament, the flowers were found larger and more abundant on the vines that were trained horizontally, than on those which climbed to a greater height; and we notice, that in all other fruits those nearest the earth ripen the first, and the hop can obtain no more sun at twenty feet from the ground than it would at six feet. If the poles were placed sloping, with horizontal and perpendicular props, the vine could still extend itself without being so subject to tempest. The position of these ranges of trellis poles could be so fixed as to admit the sun and air more freely; the tying and gathering would be more easily accomplished; and it is a curious circumstance in the natural history of this plant, that the vine always takes one direction in winding itself round its pole, regularly ascending from the right hand to the left: this, in trellis work, would avoid confusion or crossing of vines, which is injurious to all plants.

To describe the present manner of culti-

vating, gathering, drying and bagging of hops, would be repeating what may be found in every Encyclopedia, and work on agriculture, without adding entertainment or information.

The hop plantations in Sussex have increased from about 5400 to 9500 acres within these last fourteen years, as appears by a statement from the Board of Excise, which was ordered by the House of Commons to be printed in May, 1821.

In a country where malt-liquor forms the general beverage of the greater portion of its inhabitants, it becomes a matter of no small importance to know, that the hop contains an aperient, and diuretic bitter, which makes our beer more salubrious, whilst its balsamic flavour makes it more agreeable, and combines with these advantages, that of preserving the liquor by its agreeably odoriferous principle, which prevents the necessary fermentation from going beyond due bounds.

“The ale,” (says Parkinson in his *Theatrum Botanicum*, published in 1640,) “which our forefathers were accustomed only to drink, being a kind of thicker drink than beere, is now almost quite left off to be made, the use of hoppes, to be put therein altering the quality thereof, to be much more

healthful, or rather physical, to preserve the body from the repletion of grosse humors, which the ale engendered."

Ground Ivy, called Alehoof or Tun-hoof, *Glechoma hederacea*, was generally used for preserving beer, before the use of hops was known.

Horehound and wormwood, &c. &c. have been used as a succedaneum, when hops have been dear.

Some authors recommend hops against the stone; others doubt their utility in that complaint; but it has been remarked, that since hops have been more generally used, fewer persons labour under that malady.

It is said that the perfume of hops is so salutary, that when put between the outer cover and the pillow, they will procure sleep to those who are in delirious fevers.

The decoction of the flowers and syrups thereof, are thought good against pestilential fevers; juleps and apozems are also prepared with hops for hypochondriacal and hysterical affections.

"The hop," says Dr. James, "is bitter, deterotive, and gives no tincture of red to blue paper. By the chemical analysis, a little acid, a great deal of volatile concrete salt,

and oil, are obtained from it; which shews it to contain some sal-ammoniac, mixed with some sulphur and earth.

In Sweden, they make a strong cloth from the fibres of the hop-vine, after it has been dressed like flax. The Society for encouraging Arts, Manufactures, and Commerce in London, offered premiums, in 1760, for cloth made from hop-stalks. In the year following Mr. Cooksey produced specimens. In 1791, Mr. John Locket, of Donnington, near Newbury, in Berkshire, had the premium adjudged to him for cloth made from these stalks.

In the months of March and April, while the buds are tender, the country people dress them as asparagus; they are an agreeable vegetable, and esteemed good to purify the blood in the scurvy, and most cutaneous diseases.

HOREHOUND.—MARRUBIUM.

*Natural order, Verticillatae. A genus of the
Didynamia Gymnospermia class.*

“ IF the prophet had bid thee do some great thing, wouldest thou not have done it ? how much rather then, when he saith to thee, Wash, and be clean ? ”

Naaman felt the justice of his servant’s rebuke, bathed, and recovered his flesh.

Horehound has been recommended to us by medical writers of all ages and countries, as a safe and simple remedy for complaints as dangerous to our existence as the leprosy was to the Syrian captain’s. Like him we answer, that we have skilful physicians, and drugs collected from the most distant quarters of the globe ; shall we not apply to them for cure, rather than to an herb that bears affinity to the nettle ?

This medicinal plant is indigenous to most parts of Europe, as well as to Britain ; and, like many other herbs, the nearer it grows

towards the south, the more powerful is its scent. The English name having no resemblance to that of any other language, induces us to conclude that it was called hore, or hoar, from the white frosty-like appearance of the leaves, and hound, from its likeness to the herb now called hound's-tongue, the smell of which approaches so near to that of a kennel of hounds.

Miller mentions fifteen species of the white horehound. Aiton notices eleven in the *Hortus Kewensis*, that are cultivated in this country, all of which are European plants. The leaves of the common white horehound are considered to be attenuant and resolvent, and are celebrated for the relief they give in moist asthmas, and in most disorders of the breast and lungs, of which a thick and viscous matter is the cause. They are also of great service in cachexies, and chronical disorders, proceeding from a viscosity of the fluids, and obstructions of the viscera. When taken in infusion, a handful of fresh leaves, or half a handful of dried ones, is considered a dose. A dram of the dried leaves powdered, and two or three ounces of the expressed juice, have each the like effect. Lozenges made of the juice of this herb and

sugar, are esteemed good for colds that affect the chest.

Among the ancient physicians who recommended this herb, Castor directs an equal portion of the juice of the white horehound and honey, to be warmed in an egg-shell, and used as an injection, not only to break imposthumes, but to cleanse and heal them. The same author prescribed a liniment made of lard and horehound stamped, as a cure for the bite of a mad dog, and for scrophulous swellings.

Pliny informs us, in the twenty-second chapter of his twentieth book, that the Roman physicians thought horehound one of the most valuable herbs used in medicine. The leaves and seeds were pounded together as a cure for the sting of serpents, pains of the breast or sides, for old coughs, and complaints of the lungs. No medicine was considered more efficacious in these complaints, than the juice of horehound and fennel boiled into a syrup with honey, to be taken fasting. Stamped with vinegar, it was esteemed a cure for the ring-worm. The juice was thought to clear the eyesight, and mitigate the jaundice ; and for all kinds of poison, says this Roman author, few herbs are so effectual as

horehound ; for without any addition, it cleanses the stomach and breast, and brings off all impurities. Dodoens recommends it for most of these complaints, and says, that the juice mixed with honey and wine is good to clear the sight, if the eyes be washed with it ; and that the juice drawn up the nostrils clears the eyes of the yellow hue occasioned by the jaundice. This physician particularly commends it for ulcerated lungs, and spitting of blood ; but cautions those not to use it whose bladder or kidneys are affected. In addition to these remarks, Gerard adds, that the syrup made of the green leaves and sugar is an excellent remedy against the wheezings of the lungs, and for old coughs ; and that it was particularly recommended by the London College of Physicians in his time.

Dr. James observes, that this plant is hot and dry, pectoral, and good to free the lungs from hot viscid phlegm, and thereby to help old coughs, especially in cold moist constitutions ; the juice being made into a syrup, with sugar or honey, it opens obstructions of the liver and spleen, and is very serviceable against the dropsy, jaundice, &c. ; and few herbs go beyond it in relieving the diseases incidental to the female sex.

The leaves of the white horehound give no tincture of red to blue paper: they are very bitter, and have a penetrating smell. The bitter natural salt of the earth, composed of marine salt, sal-ammoniac, and nitre, seems to be united in this plant, with a considerable quantity of sulphur, phlegm, and terrestrial parts. This plant, by the chemical analysis, yields a great deal of acid phlegm, oil, and earth; a little urinous spirit; some concreted, volatile, and fixed salt, and a little lixivium.

Thus it is no wonder that the white horehound is a great dissolvent, and a good aperitive; and excellent for those who have the asthma or jaundice.

HORSE-RADISH.—COCHLEARIA.

Natural order, Siliquosæ. A genus of the Tetrodynamia Siliculosa class.

THIS plant was called *Raphanus rusticana* by the old herbalists ; but it will be observed that it is of a distinct family from the Radish, and has therefore been placed in the order of plants to which it belongs. It is a native of this country, and has long been cultivated in our gardens, as we learn from Gerard, who says, “Horse-radish for the most part groweth, and is planted in gardens, yet haue I found it wilde in sundrie places, as at Namptwich in Cheshire, in a place called the Milne eye, and also at a small village neere London, called Hogsdon, in the field next vnto a farm-house leading to Kingsland, where my verie good friend Master Bredwell, practitioner in phisick, a learned and diligent sercher of symples, and Master VVilliam Martin, one of the fellowship of Barbers and Chirurgians, my deere and louing friende, in

company with him, found it, and gaue me knowledge of the place where it flourishes to this day." It was then called Mountain-Radish and Great Raifort, as well as Horse-radish. In the North of England it was called Red Cole.

Gerard adds, "Horse radish stamped, with a little vinegar put thereto, is commonly vsed among the Germanes for sauce to eat fish with, and such like meates, as we do mustard; but this kinde of sauce doth heate the stomacke better, and causeth better digestion than mustard." From this account it appears, that horse-radish had not found its way to the English table in 1597, but was planted for its efficacy in medicine, of which Gerard and other old writers give ample commendation.

In 1657, Coles observes, "The root is commonly used among the Germans, and sometimes by gentlemen with us also, for sauce to eat fish with, and other meats, as mustard is, and so it heateth the stomach more, and causes better digestion than mustard." This author adds, "Of all things that are given to children for the worms, horse reddish is not the least effectuall, for it killeth and expelleth them."

When this plant is calcined, very little or no salts can be extracted from the ashes, these being naturally volatile.* "The expressed juice, being suffered to putrefy, affords an alkaline volatile salt, which is the reason why it is so beneficial in the arid scurvy. In the other kind of scurvy, it is very pernicious; in which case I have known it to procure a rupture in the liver. But where there is a defect of heat, and a coldness and viscidity of the juices, it is very proper. In a scurvy attended with a hot fever and a putridness, it would destroy the patient.† "

Fernel, who was physician to Henry the Second of France, discovered in the juice of this root, a vomit of the safest kind, and a friend to the stomach. We learn from more modern physicians, that if it be infused in water, and a portion of the infusion be taken with a large draught of warm water, it readily proves emetic, and may either be employed to excite vomiting, or to assist the operation of emetics.

Horse radish root has a quick pungent smell, and a penetrating acrid taste; it

* James.

† Boerh. Hist. Plant, p. 419.

nevertheless contains in certain vessels a sweet juice, which sometimes exudes on the surface. By drying, it loses all its acrimony, becoming first sweetish, and then almost insipid: if kept in a cool place in sand, it retains its qualities for a considerable time. Its medicinal effects are, to stimulate the solids, attenuate the juices, and promote the fluid secretions. It seems to extend its action through the whole habit, and to affect the minutest glands. It scours the cutaneous glands, and breaks through such little stoppages there, as occasion deformities, and all the symptoms of the scurvy. This root is also powerfully diuretic, but most so when joined with acids. Its great activity and warmth also make it good in all such nervous cases as arise from cold and viscid juices; and induce heaviness of the senses, or inaptitude to motion; in the same manner as mustard and all such stimuli.

Sydenham, who has been called the father of physic among the moderns, recommends it likewise in dropsies, particularly those which follow intermitting fevers. It is also extolled in cases of the stone. Thomas Bartholin affirms, that the juice of horse-radish dissolved a calculus, or stony con-

cretion, that was taken out of a human body.

Both water and rectified spirits extract the virtues of this root, by infusion, and imbibe the whole taste and pungency of the plant.

Boerhaave, who was so justly celebrated through Europe as professor of physic and botany, says it is one of those plants whose virtues are the least equivocal: its aperient, antiscorbutic, and resolvent qualities purify the blood, agree with colds, and above all, cure dry hard coughs, and the extinction of the voice.

Dr. Cullen says, "The root externally applied readily inflames the skin, and proves a rubifacient that may be employed with advantage in palsy and rheumatism; and if its application be long continued, it produces blisters."

The German authors give many examples of its being an excellent remedy, as well internally as for the exterior, in cases of the dropsy and rheumatism.

One drachm of the root, fresh scraped down, is enough for four ounces of water, to be infused in a close vessel for two hours, and made into a syrup, with double

its weight of sugar ; a tea-spoonful of which swallowed leisurely, or at least repeated two or three times, has often been found very suddenly effectual in relieving hoarseness.

This volatile root, when received into the stomach, both creates appetite, and assists digestion ; and is therefore properly employed as a condiment with animal food.

M. Haller, a Swiss physician, informs us, that in Sweden they cultivate the Chinese horse-radish, from which they draw abundance of oil. Horse-radish scraped and infused in cold milk, makes one of the best and safest cosmetics.

Horse-radish possesses the same peculiar property of propagating itself as the ginger ; for a small piece of the root, if buried in the earth, will form a new root and a perfect plant, which produces seed. In vain do we look into the pores of this root, to discover by what wonderful means Nature has endowed it with this gift ; and we may justly exclaim with David, "Such knowledge is too wonderful for me ; it is high, I cannot attain unto it."

It loves a moist deep soil ; and we see

many acres of ground on the borders of the Thames, east of London, covered with this plant, which brings a price in the metropolitan market that rewards the cultivator for the time it requires to mature the root.

HOUSELEEK.- SEMPERVIVUM.

Natural order, Succulentæ. A genus of the Dodecandria Dodecagynia class.

It is often called Sengreen, from the old herbalists having mistaken this plant and the stone-crop, for a species of the sengreen or *Saxifraga grandulata*; or because the Greeks comprised all these plants under the name of Ἀιγάνων, on account of their being always fresh and green.

Nature, whose slightest works cannot be viewed without instruction, has given a lesson in this plant, worthy of the deepest reflection. It teaches us, by selecting the bare rock and the sloping roofs of houses, as situations favourable to the growth of this vegetable, not to repine at our lot, or complain of the soil in which we are thrown; for the house-leek gathers its nourishment where other plants would find none, and maintains the cooling qualities of its pulpy leaves on the burning tiles of our buildings. The lesson

is as applicable to the agriculturist as to the moralist. It tells him to seek vegetation suitable to his soil, rather than complain of the earth he cannot change. The heavy clay that produces such excellent wheat, would yield a watery potatoe, a root more delicious when grown in sandy ground, where bread corn would fail of coming to perfection for want of nourishment.

“ Find out the nature of the mould with care,
And what is proper for each soil to bear.”

VIRGIL’s *Georgics*.

From the prevailing indifference with respect to the virtues of those plants that do not immediately contribute to the gratification of our appetite, it might be supposed, that our infirmities and diseases had left us; or, that having let out our bodies to surgeons on repairing leases, we were no longer at liberty to extract a thorn, or assuage pains given by the sting of a wasp, without committing a trespass.

Liberal minds will remunerate the students in physic for their skill, and not for their medicines; for the least costly of the latter, with good advice, will often remove serious maladies.

The houseleek forms a domestic external

remedy for many troublesome complaints, beneath the attention of physicians, whose time is required in dangerous disorders; and, as every cottager who has a cover for his head, has a bed for this plant, he ought to know, that after it is once planted in mud, strong earth, or cow dung, and placed on a wall, or the shelving of his dwelling, it will thrive without farther trouble. It will increase rapidly by offsets, each of which forms a kind of green rose, and throws out, at maturity, a stem resembling a palm-tree in miniature, from the summit of which spring star-shaped flowers, worthy the inspection of either the florist or the botanist.

The houseleek is cooling and restringent, and, though not often given inwardly, is commended by some as good to quench thirst in fevers, when mixed with posset drink, as also for heat and sharpness of urine. Externally, it is useful against burns and scalds, St. Anthony's fire, and the shingles.*

It is an excellent remedy for chapped hands, or scrofulous eruptions, and is the safest cosmetic, for removing sun-burns, that our fair countrywomen can use.

* Miller's Bot. Off.

Dodoens recommends the expressed juice to be dropped into the eye, as good against inflammation; or the leaf to be peeled and laid on that organ. He says also that it relieves the pains of the gout when brought on by hot humours. Gerard says, "The iuice of housleeke taketh away cornes from the toes and feete, if they be washed and bathed therewith euery day and night, as it were implaistered with the skin of the same housleeke, which certainly taketh them away without incision or such like, as hath beene experimented by my very good friend M. Nicholas Belson, a man painfull and curious in searching forth the secrets of Nature."

It is customary, with us, among the common sort, says Schroder, to give the expressed juice of houseleek and sugar, in fevers, and hot diseases.

Dr. Tancred Robinson says, he has known it exhibited with good success in fevers, and especially in those of the erysipetalous and hectic kinds; for this plant abounds with a medicinal alcaline salt.

Tragus states, that linen cloths moistened with the juice or distilled water, and applied to inflammations in any part of the body,

and especially in phrenses, are of extraordinary service; as they are, also, in inflammations and redness of the eyes.

The leaves of the houseleek, stripped of their outer membrane, and put into pure water, or rose-water, and every now and then applied to the tongue, when dry or chapped, in fevers, and renewed frequently, are remarkably lenient and serviceable in such a case.*

This plant being analysed, yields a good deal of acid and earth, and a very little concrete volatile salt. It probably contains a salt resembling alum, mixed with a little sal-ammoniac; for the juice of this plant evaporated to one half emits an *urinous* smell. For foundered horses, nothing is better than to make them drink a pint of the juice of this plant.†

Lewis gives the following chemical description of this species of sempervivum: "The leaves of houseleek, of no remarkable smell, discover to the taste a mild, subacid austerity; their expressed juice, of a pale yellowish hue when filtered, yields on inspis-

* Raii. Hist. Plant.

† Martyn's Tournefort.

sation a deep yellow, tenacious, mucilaginous mass, considerably acidulous and acerb: from whence it may be presumed, that this herb has some claim to the refrigerant and restringent virtues that have been ascribed to it.

It is observable that the filtered juice, on the addition of an equal quantity of rectified spirit of wine, forms a light white coagulum, like cream of fine pomatum, of a weak but penetrating taste. This, freed from the fluid part, and exposed to the air, almost totally exhales. From this experiment it is concluded by some, that houseleek contains a volatile alkaline salt; but the juice coagulates also with fixed alkalis. Acids produce no coagulation."

The Romans took great pleasure in the houseleek, and planted it in vases which were set before the windows of their houses. It was called *Buphthalmon*, *Zoophthalmon*, and *Stergethron*, being considered one of the love medicines. It was also named *Hypogesan*, from its growing under the eaves of dwellings; and it was often called *Ambrosia*, *Amerimnos*, and *Sedum*.

The juice of the leaves was used by the ancients for all humours and inflammations of the eyes, as also to bathe the temples for the

head-ache, and to draw off inflammation occasioned by the bite of venomous spiders. It was likewise said to be an effectual antidote against the deadly poison of wolfs-bane or *aconitum*.*

Its use is also recommended by Pliny for the red gout, erysipelas, and scrofulous swellings; and it was thought to procure sleep to those who were in restless fevers, being placed in black cloth and put under the pillow of the patient. It was also thought that those who carried houseleek on their persons, were never molested by the terrible sting of the poisonous scorpions.

Dioscorides and Galen direct the application of the juice with vinegar, instead of an epithem, to an erysipelas, which no physician, says Caspar Hoffman, in our times, would venture to prescribe.

This hardy plant is erroneously stated to be a native of Britain only. It is doubtful whether it is even an aboriginal of our soil; and from the early mention of it by the Greek and Roman herbalists, we consider it, as well as the tree houseleek, to be indigenous to the Greek islands.

* Plin. book xxv. chap. 13.

Aiton mentions twelve species of the *Sempervivum* as being cultivated by the curious in this country.

The Dutch cultivate the yellow stone-crop *Sedum reflexum*, which they mix amongst their salads. It has a subastringent taste.

HYSSOP.—HYSSOPUS.

Natural order, Verticillatae. A genus of the Didynamia Gymnospermia class.

Hyssop bears nearly the same name in most of the European languages, and is derived from the Hebrew אֶזֶב *Ezeb*, signifying a holy herb, or herb for purifying holy places.

When the Passover was instituted, Moses commanded the Israelites to take a bunch of hyssop, and dip it in the blood of a lamb, and to sprinkle the lintel and the door-posts, after which none were to pass out until the morning.*

It was also used by the priest at the cleansing of persons afflicted with leprosy, as well as for purifying the house of the leper.†

David also mentions this herb in the

* Exodus, chap. xii. verse 22.

† Leviticus, c. xiv. 4, 49 and 52.

beautiful prayer he made after being rebuked by Nathan's parable: "Purge me with hyssop, and I shall be clean."*

St. John informs us, that at the crucifixion of our Saviour, "there was set a vessel full of vinegar: and they filled a spunge with vinegar, and put it upon hyssop, and put it to his mouth."†

From these customs of the Hebrews we may conclude, that hyssop grew naturally both in Egypt and in Syria.

Some authors have surmised, that the hyssop of scripture is the shrub we call Winter Savory; but Pliny has not only described the savory distinctly, but he says also, that the best hyssop grows on Mount Taurus in Cilicia, and next to that is the hyssop of Pamphylia, both in Asia Minor. It grew also in Smyrna.

This author says, it is an herb not friendly to the stomach. The Romans used it with figs as a purgative, and with honey as an emetic; and a plaster was formed of it for the sting of serpents.

Pliny gives the following simple receipt, as an excellent drink to discharge the chest

* Psalm li. 7. † Chap. xix. 29.

of phlegm: five sprigs of hyssop, two sprigs of rue, boiled with three figs.*

Aiton notices three species of hyssop, and four varieties of the common sort, the earliest of which was cultivated in this country in 1548. The same author mentions four species of hedge hyssop, *Gratiola*, all of which are exotics; but Gerard informs us, that he found the broad-leaved hedge hyssop growing wild as early as the year 1590; and as it was upon an interesting occasion to the citizens of London, I shall give his own words.

“ It groweth in moist places. I found it growing vpon the bog or marrish ground, at the further end of Hampstead Heath, and vpon the same heath towards London, neere vnto the head of the springs that were digged for water to be conueied to London, 1590, attempted by that careful citizen, Sir John Hart, Knight, Lord Maior of the Citie of London: at which time myselfe was in his lordship’s company, and viewing for my pleasure the same goodly springs. I found the said plant not heretofore remembered.” The same author says, he “ experimented this herb,” and found it a powerful purgative.”

* Book xxvi. c. 6.

Dodoens wrote much on the medicinal virtues of hyssop, and says, "the decoction of this plant with figs, rue, and honey, boiled together, is good for the complaints of the chest, shortness of breath, and hard dry coughs. He recommends it to be given to children with figs to destroy worms, as also to be used as a gargle to break tumours in the mouth and throat. He states also, that hyssop boiled in vinegar, and held in the mouth, eases the tooth-ache; and that the decoction removes congealed blood occasioned by bruises, and takes off the black or blue marks.

Later authors have greatly commended it in cases of bruises from falls, blows, &c., either by way of cataplasm, or only a little bundle of the plant put into a linen rag, and applied to the part. Ray gives an account from Mr. Boyle, of a violent contusion of the thigh, from a kick of a horse, which was happily cured by this herb, boiled and applied as a cataplasm. He tells us, the violent pain was almost instantly removed, and the very mark and blackness taken off in a few hours.

The leaves and flowers are of a warm pungent taste, and of an agreeable aromatic

smell: therefore, the tops and blossoms are sometimes reduced to powder, and used with cold salad herbs, having a comforting and strengthening virtue; they are salutary against melancholy and phlegm. Besides the general virtues of aromatics, hyssop is greatly recommended in humoral asthmas, coughs, and other disorders of the breast and lungs; and is said to promote expectoration. The leaves infused in the manner of tea and sweetened with sugar or honey, have been found good in diseases of the breast and lungs, being of a detergent, attenuant, expectorant, and corroborant quality.

This exotic may be raised either by seed or cuttings. It thrives best in a poor dry soil, and will also bear the severities of winter much better in such soil, than where its pores are filled with moisture in a richer soil.

The hedge hyssop is said to be good in dropsical cases, but it is so powerful a medicine, and its operations are so violent, that it can only be given to persons of robust constitutions, although it is rendered more mild by being boiled in milk.

M. Geoffroy, a French physician, who studied in England about the end of the 17th

century, says, a purgative of powerful virtues may be extracted from the *Gratiola* in a dry state, which operates in a small dose, and without any disagreeable taste.

Dr. James says, hyssop is healing, opening, and attenuating; good to cleanse the lungs of tartarous humours, and helpful against coughs, asthmas, difficulty of breathing, and cold distempers of the lungs; it is also reckoned a cephalic, and good for diseases of the head and nerves.

Of the efficacy of hyssop, in sugillations of the eyes, we learn an instance from Riolanus the elder: I found by experience," says that physician, "the truth of what Archigenes affirms, in Galen, which is, that if the tops of hyssop be tied up in a cloth, and boiled in water, and the cloth afterwards applied warm to the livid eye, the blood will be attracted by the hyssop to such a degree, as to stain the linen. Upon this authority I have, several times, prescribed a decoction of hyssop against sugillations, even of the eyes; only, instead of water, I sometimes ordered the bag to be boiled in wine; and, directing the application of it, somewhat warm, to the eye-lids, when the patient went

to bed, his eyes being shut, the lividness was removed as well as I could wish.*

Hyssop, in surgery, has its use in heating and ripening, &c. The vapour removes ringing in the ears, when introduced into them.

* Simon Pauli.

INDIGO.—INDIGOFERA.

Natural order, Papilionaceæ. A genus of the Diadelphia Decandria class.

BEFORE we describe this plant, which the ingenuity of man has made important, rather by adding to our luxury, than from any real use or addition to our comfort, it may not be irrelevant to the subject to notice what gave rise to this artificial want.

Instinct, which directs the ox to the pasture, the bee to the flower, and the bird to the seed, would first instruct man to satisfy and provide for the necessary nourishment of his frame: when wants were supplied, comforts would next be sought. The protection of the body from the sun, or the inclemency of the weather, would form the second consideration; and as the human species increased, some mark of distinction would be called for, to bestow on objects of reverence, love, or power.

This love of distinction and ornament seems inherent in our nature, since we find that barbarians who had neither learnt to cultivate the fruits of the earth, nor to raise themselves a shelter from the weather, would adorn their naked bodies by staining them of various colours, and often render themselves conspicuous by painful operations.

Pliny says, the women of Britain, both wives and virgins, went without clothing to the feasts and sacrifices, except that they coloured their bodies with an herb which they got from Gaul. This ancient custom had nearly been revived in the present century; but the modesty and good taste of the British fair soon discarded a fashion so repugnant to the character of the English nation.

The eastern part of the world, where man was first created, gave birth also to the arts. The Scriptures as well as the writings of the Heathens, inform us, that the art of dyeing was invented on the coast of Syria.

The city of Sidon is supposed to have been so called after the eldest son of Canaan. The patriarch Jacob mentions this city as being on the coast; "Zebulun shall dwell at the haven of the sea; and he shall be for

an haven of ships: and his border shall be unto Zidon.”*

Tyre, which was called the daughter of Sidon, was built on an island near the coast. These cities were inhabited by the Phœnicians, whose kingdom was small, and soil sterile; Nature had, however, favoured them with commodious harbours; and the forest of Lebanon being within their territories, furnished them with timber for constructing vessels. “They have made all thy shipboards of fir trees of Senir: they have taken cedars from Lebanon to make masts for thee.”† With these natural advantages, and the want of those necessaries of subsistence which their own barren soil would not supply, they turned their attention to commerce, for which their situation was peculiarly favourable. Intercourse with mankind naturally opens and extends the mind. From trading in articles of necessity, those of luxury would follow. From these art would spring, and manufactories arise.

Idmon, the father of Arachne, is said to have been the inventor of dyeing, and it is related, that the discovery of the purple

* Gen. chap. xlix. 3.

† Ezek. chap. xxvii. 5.

dye was owing to a dog, which, having caught one of the purple fishes among the rocks, in eating it, stained his mouth and beard with the precious liquor; the hue thus acquired, struck the fancy of a Tyrian nymph so strongly, that she refused her lover Hercule sany favours till he had brought her a mantle of the same colour.

The dye of Tyre became celebrated in all nations ; and this city appears to have kept the art within its own walls for many ages. It was esteemed as precious as pure gold, and seldom used but by kings and princes, or in the vestures of the priests. Private persons were forbidden by the laws of most countries to wear the least scrap of it.

The hangings of the Tabernacle were made of blue, and purple, and scarlet ; the holy garments of Aaron were also ornamented with these colours.

“ King Solomon made himself a chariot of the wood of Lebanon, he made the pillars thereof of silver, the bottom thereof of gold, the covering of purple.”

Ezekiel mentions the purple dye among the rich merchandize of Tyre. “ Syria was thy merchant by reason of the multitude of the wares of thy making : they occupied in

thy fairs with emeralds, purple, and broidered work, and fine linen, and coral, and agate." *

That purple and scarlet were only used by sovereigns and rulers, we learn by the words of Belshazzar king of Babylon, when he addressed the prophet Daniel. " If thou canst read the writing, and make known to me the interpretation thereof, thou shalt be clothed with scarlet (or purple), and have a chain of gold about thy neck, and shalt be the third ruler in the kingdom †." Again we read in the tenth chapter of the 1st book of Macca-bees, that when Jonathan's accusers saw that he was honoured and clothed in purple, they fled all away."

The soldiers, when they mocked Christ, put on him a purple robe.

" I find in the ancient chronicles," says Pliny ‡, " that purple has been worn in Rome from its first foundation. However," says this author, " king Romulus only wore it in his royal garment, or mantle of majesty. Tullus Hostilius was the first Roman king who put on the long purple robe, and the cassock bordered with scarlet." Cornelius Nepos

* Chap. xxvii. 16. † Chap. v. v. 16.

‡ Book ix. 39.

says, a pound of the Tyrian purple could not be bought for less than 1000 denarii, (31*l.* 5*s.*) He says, “ that when P. Lentulus Spinther was *Ædile*, he wore in the chair a long embroidered robe, for which he was both blamed and checked, but now-a-days it is thought nothing to hang our dining-chambers with this purple dye, as well as to carpet our floors, our cushions, and our cupboards, with this double-dyed purple of Tyre.”

The Tyrians obtained this fine colour from shell-fishes called *Purpuræ*, and those taken from the deepest water produced the finest purple. These were therefore called *Pelagiaæ* (fish of the deep sea). These fish have a tongue of about a finger in length, of so hard and sharp a nature, that they pierce through the shell of other fish, and thus draw their nourishment from their victim. From this observation the Phoenicians invented a method of catching them, both simple and curious. They procured cockles, which were kept dry until they were nearly exhausted, and then put into small nets and let down to the bottom of the water. Here they naturally would open, to revive, and receive the benefit of their element, which being perceived by the purples, they

darted their tongues into the cockles, who, feeling the intrusion, instantly closed their shells, and by this means their enemies were drawn up by their tongues.*

The beautiful dye of the ancients was a liquid contained in a small white vein in the mouth and throat of the *purpura*.

This fish was principally taken in the spring of the year, as at that time it was found to possess this precious liquid in the greatest perfection. The veins were laid in salt, and then boiled with much nicety for ten days before the colour was perfect. It gave a scarlet or a purple dye, according to the state of boiling, or in all probability by some slight addition. These colours were both called the Tyrian dye, which accounts for the different term used by the Evangelists; St. Matthew writes, that the soldiers, when they stripped Christ, put on a scarlet robe, whereas St. Mark and St. John mention a purple robe.

Till the time of Alexander the Great, we find no other sort of dye than purple, blue, and scarlet. It was under the successors of

* It is to be regretted that a similar trap has not been invented for the reptile slanderer, whose cutting tongue often injures the fairest reputation.

that monarch, that the Greeks applied themselves to the forming of other colours, and which in all probability they learned in their excursions into India, where yellow is considered the oldest colour known in dyeing.

It required three hundred of the purple fishes to dye one pound of wool, and as they cast up this valuable stain if suffered to die, we cannot be surprised at the high price the Tyrian colour bore. Thus was derived that glorious purple, so full of state and majesty, that the Roman lictors, with their rods, halberds, and axes, made way for. These little fish were drawn from the bottom of the sea by their tongues, to make distinction between a knight and a counsellor of state, to give splendour to the victorious generals in their triumphs, and to add reverence to the priest when offering sacrifice.

“ The Gauls,” says Pliny, “ were the first who invented the means of counterfeiting the purple and scarlet of Tyre, and all other colours, by the means of vegetable juice.” The modern French, are celebrated for many colours in dyeing, in which they excel all Europe.

The English being now, like the Phœnicians of old, a commercial people, with few

natural productions in their country that are not to be found in other parts of the world, have followed the course of the sons of Canaan:

“ For stormy seas they quit the pleasing plain,
Plant woods in waves, and dwell amidst the main.”

ARISTAEUS.

The Phoenicians, by planting colonies in various parts of the Mediterranean, were able to collect all the rarities of the then known world to their city, and thus rendered Tyre “the mart of nations;” and as long as the justice and good policy of our nation cherish its colonial children with the care of a fond parent, so long will Britons be the envy of nations, and their indigo be as profitable as the purple of Tyre.

The art of extracting this blue dye from the indigo plant was discovered by the natives of the East Indies; and its first introduction to Europe was at a time when ingenuity had carried luxury to the highest pitch at Rome. Pliny, who died in the year 79 A.D. says*, “It is not long since they began to bring from India a blue colour, from thence called *Indico*, which sells from seven-

* Book xxxiii. chap. 13..

teen to twenty *denarii* the pound, and answers well for painters to form shadows from lights in their works." In the sixth chapter of his 35th book, he says, *Indico* is one of the colours which the masters deliver to the painter by weight and measure, on account of its costliness; and although it is so much esteemed, it is only a slimy mud, cleaving to the foam that is gathered about canes and reeds: it looks black while pounding, but, when dissolved, it produces a lovely colour, between purple and azure.

It appears from this account, that the Indians had not then manufactured indigo, but that it was formed by the plants falling into water, where the colour, being discharged by fermentation, clung to the canes and reeds as described.

We should find that there are but few arts which do not owe their discovery to simple causes, could we trace their origin.

" Thy art of building from the bee receive;
Learn of the mole to plough, the worm to weave.
Learn of the little nautilus to sail,
Spread the thin oar, and catch the driving gale."

The finest indigo is brought from Java; it is likewise made on the coast of Coroman-

del, Pondicherry, Agra, &c. &c. Pompel says, the Indians of the village of Sarquesse, near Amadabar, use only the leaves of the indigo, and throw away the plant and branches; this may be one of the causes why their indigo is so superior to that of the western world.

The seed of indigo, which is small, and in appearance like coarse gunpowder, is sown in drills at a distance of about a foot from each other. It soon makes its appearance, and is, when young, hardly to be distinguished from lucern grass; but when come to maturity, it has more the appearance of fern. It generally grows to the height of two feet in about eight weeks, when it begins to blossom. The flowers are like those of the pea, and of a reddish colour, but destitute of smell. The pistil changes into a long crooked pod, resembling a sickle, wherein the seed is contained. The leaves are ranged in pairs around the stalk, ending in a single lobe, and are of an oval form, of a dark brownish green on the upper side, and of silver-grey beneath. These leaves are covered with a fine farina or meal when the plant is in blossom, at which time it is cut with pruning knives, and carried with care,

lest the powder should be shaken off, on which the beauty and value of the indigo depend. The cutting is repeated in about six weeks, and is performed a third time if the weather is favourable. The plant is suffered to remain two years in the ground, when it is found to have exhausted the juices necessary for its nourishment. It is a plant that requires to be kept quite free from weeds and worms, on which account it employs about twenty-five negroes to manage a plantation of fifty acres, allowing them time to provide their own necessary subsistence. Good land will yield from sixty to seventy pounds weight of indigo per acre; at a medium the produce is about fifty pounds.

The indigo plantation is as subject to casualties as that of rice or other crops. Sometimes the plant becomes dry, and is destroyed by an insect that frequents this herb. At other times, the whole of the leaves, which are the valuable part of the plant, are devoured in the space of twenty-four hours by caterpillars. This has given rise to the saying, "that the indigo planter goes to bed rich, and rises in the morning totally ruined."

In Carolina the wild native indigo is found to answer the best, on account of its hardi-

ness, the ease with which it may be cultivated, and the quantity of its produce, although it is not esteemed of the finest quality.

As this vegetable dye is in demand, from the imperial robe to the peasant's stocking, and forms alike the delicate white of the muslin dress, and the dark blue of the gardener's apron, we shall enter into the process of making this colour, so much in request in our manufactures, from the carpet to the crape in wool, and in like proportion in silk, flax, and hemp, following the two latter even into paper.

The apparatus for indigo works, though large, are not very expensive; the whole consisting of a pump, vats, and tubs. As soon as the plant is cut, it is put into a steeping vat of about twelve feet long and four deep, to the height of about fourteen inches. The vessel is then filled with water, and the plants left to macerate about twelve or fourteen hours, when they undergo a fermentation, and begin to rise and grow sensibly warm. Spars of wood are then laid across, to prevent the indigo from rising too much, and a mark is set to denote the highest pitch of its ascent. In about twenty-four hours, the fermentation

having attained its due pitch, and beginning to abate, the operator lets off the liquor by a cock into another vat, called the beater, the mortar, or the pounding-tub. The gross matter is taken for manure, and the steeping-vat cleansed for the reception of fresh plants, as long as the harvest continues.

The liquor that has run into the beating-tub is found strongly impregnated with a very subtile earth, which alone constitutes the blue substance required. To separate this from the useless salt of the plant, which makes it float on the surface, the liquor is agitated by incessant beating with bottomless buckets full of holes and fixed to long handles, until it heats, froths, and rises above the rim of the vessel which contains it. To allay this violent fermentation, oil is thrown in, which instantly causes it to subside. This part of the process requires the greatest precaution, for if the agitation be discontinued too soon, the part that is used in dyeing, not being sufficiently separated from the salt, would be lost. If, on the contrary, the dye were to be agitated too long after the complete separation, the parts would be brought together again and form a new combination; and the salt re-acting on the dregs would ex-

cite a second fermentation, that would alter the dye, spoil its colour, and make what is called burnt indigo.

To prevent these accidents, a close attention is paid to the least alteration the dye undergoes, by taking up some of the liquor in a glass from time to time. When it is perceived that the blue particles collect by separating from the rest of the liquor, they leave off shaking the buckets, and pour lime-water into it, and gently stir the whole. The blue dregs precipitate to the bottom of the tub, where they are left to settle till the water is quite clear, when it is let off by taps or holes one below the other, until nothing remains at the bottom but the blue dregs, which are then put into coarse linen bags: these are hung up until the moisture is entirely drained off. To complete the drying, this muddy substance is worked upon boards of some porous wood, with a wooden spatula, and it is frequently exposed to the morning and evening sun, though but for a short time only, and then being put into boxes or frames, is again exposed to the sun, in the same cautious manner, until it is made fit for market.

It is much to be regretted, that no sooner has one man learnt to manufacture a useful

article, than others employ their ingenuity to adulterate it, or substitute for it some base imitation. Indigo had no sooner found its way into Rome, than spurious drugs were coloured and substituted; and, although they were ingenious, we deem it better to avoid the mention, and make known the most simple means of detecting frauds when practised in indigo. The best is of a dark blue inclining to violet, bright and sparkling when broken, and will float on water. It may be tried by dissolving a little in a glass of water, when, if pure, it will mix equally with the liquor; but if otherwise, will separate, and fall to the bottom. Indigo may also be tried in fire, where it will burn entirely away if good, but the adulterations remain unconsumed. Mr. Wynne says in his History of the British Empire in America, "Perhaps in no branch of manufacture can so large a profit be made upon so moderate a capital, as in that of indigo; nor can the manufacture be carried on in any country with greater advantages than in Carolina, where the climate is healthy, provisions plentiful and cheap, and every thing necessary for the purpose procured with the greatest facility.

The indigo plant has been cultivated in our green-houses since 1731, and many varieties have been introduced since that period, by the curious in exotic plants.

Hellot suspects that such a blue fæcula as is procured from indigo and woad, is procurable from many other vegetables. He supposes the natural greens of vegetables to be compounded of blue and yellow, and that blue is oftentimes the most permanent, so as to remain entire after the putrefaction or destruction of the yellow. The theory is specious, and perhaps, on trial, may be found just; at all events it is well to give this idea to the world.

Probably, blue has been selected as the most appropriate colour for the dress of our brave sailors, from its having been anciently used as the symbol of the sea, for which reason the combatants who performed in the *Naumachiae*, at the *Circensian* games at Rome, were clad in blue; and those who had distinguished themselves by any notable exploit at sea, were rewarded with a blue ensign.

Notwithstanding the Dyers' Company of London was incorporated so long back as the reign of Henry the Sixth, yet the dyeing and dressing of woollen cloths was very imper-

fectly understood in England, in the year 1608 ; before which period, they were sent white into Holland, where they were dyed and dressed, and from thence brought back for sale. In that year, Sir William Cockrayne, an alderman of London, obtained a patent for dyeing and dressing cloths at home ; but great confusion arising from this grant, it was revoked in 1615. But in 1667, workmen came over from the Netherlands, under whose direction the art was brought to a considerable degree of perfection ; but there is even at the present time great room for improvement in our dyeing, many of our colours being inferior to those of our Continental neighbours.

The Romans used indigo to assuage swellings and inflammations, and to dry tumours.

In the *Hortus Indus Malabaricus*, it is stated, that a decoction of the indigo root is an excellent remedy in nephritic colics.

Some physicians recommend indigo in the quantity of a dram, while others condemn the practice, and look on it as a poison. The internal use of indigo is prohibited by law in Saxony.

JERUSALEM ARTICHOKE.

A genus of the Syngenesia Polygamia frustranea class.

THE Jerusalem Artichoke, is a tuberous rooted species of the *Helianthus*, Sunflower, or Turnsol; the Italians called it *Girasol*, which we have ignorantly corrupted into Jerusalem.

Pelleterius calls it *Heliotropium Indicum tuberosum*. Parkinson, in whose time these plants were first introduced, mentions them under the title *Battatas de Canada*, the French Battatas, or Hierusalem Artichokes. Coles also, whose work was printed only 40 years after they were known in this country, calls them the Potatoes of Canada; but we are informed in Martyn's edition of Miller, "that they were so called because the French brought them first out of Canada into these parts; not that Canada is their original

country, for they are unquestionably the produce of a hot climate, being natives of Brazil."

This root, which is more agreeable than profitable, was first planted in England during the reign of James the First, as we are informed that in the year 1617, Mr. John Goodyer received two small roots from Mr. Franquevill of London, no bigger than hen's eggs; the one he planted, and the other he gave to a friend. His own brought him a peck of roots, wherewith he stored Hampshire. This note is dated the 17th of October, 1621; and it is added that he had them upon their first arrival into England.*

If this were the era of the first introduction of the Jerusalem artichoke, it seems surprising, even allowing for the facility with which it is increased, that so soon as the year 1629, or even earlier, it should have become so common in London, that even the most vulgar began to despise it: whereas when first received among us, it was, as Parkinson says, a dainty for a queen. They were formerly baked in pies, with marrow, dates, ginger, raisins, sack, &c.; but the too frequent use, especially being so plentiful and

* Miller.

cheap, hath, says Parkinson (in 1629), rather bred a loathing than a liking of them.

Coles observes in his History of Plants, that "The potatoes of Canada, called by ignorant people Jerusalem artichokes, were of great account when they were first received amongst us; but by reason of their great increase they are become common, and consequently despicable, especially by those which think nothing good unless it be dear; but if any one please to put them into boiling water, they will quickly become tender, so that, being peeled, sliced, and stewed with butter, and a little wine, they will be as pleasant as the bottom of an artichoke."

These roots seem to have been disesteemed from their ventosity, and watery qualities; but when properly cooked, and eaten with moderation, they may be considered as safe as most other vegetables. The root nearly resembles the flavour of the artichoke bottom, on which account they are as improperly called *Artichokes*, as they are absurdly named *Jerusalem*.

This vegetable is propagated by planting out the smaller roots, or pieces of the larger which have buds to them, in the manner of potatoes. The stem grows to a considerable

height, having all the appearance of the sun-flower, excepting that they do not blossom in this temperate climate. The root spreads immoderately, multiplies very quickly, and is with difficulty cleared out of land where it is once planted. The Jerusalem artichoke is thought greatly to impoverish the earth.

LAVENDER.—LAVENDULA,

OR THE ANCIENT SPIKENARD, FROM SPICA
NARDI.*

*Natural order, Verticillatæ. A genus of the
Didynamia Gymnospermia class.*

LAVENDER is called Νάρδος, *Nardus*, in Greek, from Naarda, a city of Syria, near the Euphrates, and Νάρδας-άχυς, *quasi Nardi Spica*, which was the general name of the Indian sort: also *Nardus Indica*, to put a distinction between that and the Celtic and mountain spikenard. †

The plant takes its name à *lavando*, from washing or bathing, because it was used in baths, on account of its fragrancy; or because all the species were ingredients in lyes, for the purpose of giving a sweet smell to linen; or entered the composition of the best *Lavacra*, or washes for the face, in order to render it shining and fragrant. It is also called *Spica*,

* Todd's Edit. of Johnson's Dict. Hill, Mat. Med.

† Lobel. Cole.

spike; because, among all the verticillated plants, this alone bears a spike. Many call it *Nard*; and, perhaps, this is the true nard of the ancients.*

This shrub, which is the pride both of our aromatic gardens and of our perfumers' shops, is a native of Languedoc, some parts of Spain, Hungary, and Austria; but the most odoriferous lavender grew anciently about the city Eporrhedia, and was so much esteemed at the time when our Saviour was upon earth, that it was sought after with the greatest avidity and brought a revenue to that city equal to a mine of the most precious metal.†

St. Mark mentions it as a thing of great value; for when Christ was in Bethany, “in the house of Simon the leper, as he sat at meat, there came a woman, having an alabaster box of ointment of spikenard, very precious: and she brake the box, and poured it on his head.” They who were present observed that “it might have been sold for more than three hundred pence.”‡

Pliny, who flourished a little after this

* *Historia Plantarum*, ascribed to Boerhaave.

† *Plin. book xxi. chap. 7.*

‡ *Chap. xiv. ver. 3 to 5.*

period, has described the lavender plant under the name of *Nardus*. The blossom he notices as forming a spike, and says there is a spurious kind of nard, which is often sold for the true spikenard. In the same chapter he states that the most costly and precious ointment was made from the aromatic leaves of the *nardus*, and that the spikes (blossoms) sold for 100 Roman denarii, (3*l.* 2*s.* 6*d.*) a pound.

This exact naturalist has described the varieties so minutely, that it cannot be mistaken for any other plant. "The Romans," says he, "esteem the leaves of the *nardus* that is brought from Syria as the best; next to that the Gallic lavender or *nardus* is in estimation." He also notices the spikenard of Candia, and of India; but he does not even hint that the latter plant was used as a perfume. What especially confirms this opinion is, that Pliny, after having described the same ointment mentioned by the Evangelists, which he directs to be kept in pots or vessels of alabaster, observes that the flowers or spikes of the plant being laid in wardrobes give a most agreeable perfume to the garments.

Lavender, or *Nardus*, was likewise called

Asarum by the Romans, on account of its not being used in garlands or chaplets: the leaves, says Pliny, were too small and brittle to be woven into coronets.

It has often been asserted, that the spikenard ointment of the ancients was made from the root of the *Valeriana Jatamansi*, which is found growing only in India; but this seems highly improbable, as the scent of this root differs very widely from our idea of agreeable perfumes; and we may presume, that the opinions of the Romans at the commencement of the Christian era, with respect to odours, were similar to our own; as we find, besides the spikenard, they extracted their favourite odours from roses, myrtle, violets, marjoram, lilies, orris-root, and jonquils, &c., to which they often added sweet spices and aromatic gums.

The late Sir William Jones was of opinion, that this celebrated ointment was procured from the root of the Valerian of Nepal; and on this authority, Mr. Lambert tells us in his illustration of the genus Cinchona, that the *Valeriana Jatamansi* "is identical with the spikenard of the ancients:" notwithstanding the doubts expressed by Dr. Francis Hamilton, in his account of Nepal, where he says,

“ As there can be no disputing about taste, I cannot take upon myself to say how far the encomiums bestowed on the spikenard are applicable to the Valerian ; all I can say is, that if this root was the spikenard of the Roman ladies, their lovers must have had a very different taste from the youth of modern Europe.

The wild lavender, which grows so abundantly in the south of France, is known to be the bastard nard of the ancients. P. Po-met, who was superintendant of the *Materia Medica* in the King’s Gardens at Paris, in 1694, says, “ Nous faisons venir, de plus, de Languedoc et de la Provence, l’huile d’aspic, qui est tiré des fleurs et des petites feuilles d’une plante que les Botanistes appellent *Spica, sive Lavendulamus, vel Nardus Italica, aut Pseudo-nardus*, qui signifie Aspic, ou Lavande mâle, ou Nard d’Italie, ou Nard bâtarde.”

The antiquity of the use of odoriferous gums and perfumes, in the eastern nations, defies our researches into its origin ; but it was the opinion of ancient writers, that they were first brought out of Elam, the country now called Persia, and formed one of the earliest articles of commerce with the Egyptians.

These people appear to have set great value on aromatic drugs, which, on account of the damp fogs arising from the Nile, they could not obtain in so high a degree of perfection from their native plants. The Ishmaelitish merchants to whom Joseph was sold, were going into Egypt with their camels laden with “spices, and balm, and myrrh.”* The Israelites would, of course, become acquainted with the use of these luxuries during their bondage in Egypt; and particularly Moses, from his having been bred up in Pharaoh’s court. Among the offerings which the children of Israel made for the Tabernacle, were spices for anointing oil, and for sweet incense.† In the 30th chapter of Exodus, we learn that Moses was commanded to make the holy anointing oil, and a perfume of various aromatic gums and vegetables, after the manner of the apothecaries.”

“ Why need I name the sweet balsamic oil,
Which weeps from shrubs in Juda’s fertile soil ?”

VIRGIL.

This precious balm, so often mentioned in Scripture, was drawn from shrubs which grew only in two places in Judea. These

* Gen. c. xlivi. v. 11.

† Exodus, c. xxv. v. 6.

were afterwards inclosed as parks or gardens, and most religiously kept for the Kings of Israel. The largest of these enclosures contained about twenty acres: and both of them were said to produce but seven gallons of this valuable aromatic sap, in the most favourable year. When fresh, it was of a pale colour, and of the consistency of oil, but, by keeping, it was converted into a reddish gum, clear and transparent. It was obtained by making incisions in the shrubs; but the most valuable was that which oozed from the natural cracks in the bark. From the pruning of the shrubs and leaves was procured an inferior kind of balm.

When Alexander was in Judea, (332 years b. c.) he limited the quantity of balm that was to be taken from both these gardens, to one spoonful per day.

Pompey boasted of having borne one of these shrubs in his triumph; and the Emperors Vespasian, both father and son, brought one of these balm-trees to Rome, where it was publicly exhibited.

At the sacking and destruction of Jerusalem, the Jews endeavoured to destroy these sacred shrubs, in order to prevent their falling into the hands of the heathens; but the

Romans wishing to preserve them, a most bloody battle ensued. The trees were preserved, indeed, but for the worshippers of idols, though the Temple fell without being polluted by heathen sacrifices.

These celebrated shrubs, and their balsamic liquor, were then placed under the protection of the Roman empire. They are now doomed to shed their tears for the gratification of the Grand Signior's seraglio only; for even the balsam that so rarely leaves Constantinople, in the shape of presents from the great men of the Porte, is merely an extract from the prunings of the plants.

The cultivation of these shrubs is now exclusively in the hands of the Turkish Sovereign; and is esteemed so precious as to form a special part of his revenue.

Le Sieur Pierre Pomet, in his *Histoire Générale des Drogues*, 1694, tells us, that the Grand Signior had some of these shrubs transplanted into his garden at Grand Cairo, where they were so strictly guarded by the Janizaries, that his friend could not by any stratagem obtain a sight of the trees, excepting from the height of the wall. From the drawing and description which this author

has furnished us with, the leaves of this shrub are made to resemble those of rue, and the white blossoms are of a star-like form, from the centre of which grows a berry, pointed at the extremity, containing a kernel or seed. This author tells us, that Madame de Villefavin, had possessed herself of fourteen ounces of this precious balm, which he saw, and that it was of a bright gold colour, had the perfume of the citron, and was of a firm consistency.*

“ Indus alone can swarthy ebon boast,
As fragrant incense the Sabæan coast.”

VIRGIL.

The sweet incense, or frankincense, which was also used both in the worship of the true God, and on the altars of the profane temples, was a produce of Arabia Felix, and was drawn from trees in a manner similar to the balm.

Pliny informs us, that, when Alexander was but a child, he threw incense on the altar so unsparingly at a sacrifice, that Leonidas, his tutor, slightly checked him with this reproof, “ Sire ! you should throw incense in that manner, when you have conquered the

* Livre vii. chap. 44.

country where it grows." The rebuke seemed to have made deep impression on the mind of the young prince, for when he had conquered Arabia, he sent a ship laden with incense to Leonidas, with a charge to his tutor to bestow it largely on the gods when he sacrificed.

The incense trees grew only in that part of Arabia that was inhabited by the Sabæans, and so strict were their laws respecting them, that no persons were permitted even to see the trees, excepting those who had the charge of them. The valley where they grew was surrounded by mountains, and was situated about eight days journey from Sabota (now Sanaa) the capital, whither the incense was conveyed on camels; and it was forbidden, on pain of death, to enter the city with this drug, except at one particular gate, where the priests took a tenth part for their god Sabis, and no person could either buy or sell it until this duty was discharged. The Gebanites were the only people allowed to carry it out of the country. They also paid a toll to their sovereign. It was taxed again at Gaza, and by the time that the kings, the priests, the secretaries, the wardens of the temples, and the various officers, had levied

contributions on this drug, but little was left to pay the great charge of bringing it to the coast ; "and here," says Pliny, "the publicans and officers of the customs belonging to the empire must have a fleece, which raises it to so high a price in Rome."*

At the time when this frankincense was taken to Alexandria, to be tried, refined, and made up for sale, the workmen were naked, excepting short trowsers, which were sowed up and sealed, to prevent the possibility of their concealing any portion of this valuable drug. Their heads were fixed in a mask or caul, lest they should secrete the smallest portion either in their mouths or ears. They were not even suffered to depart after all these precautions, till they were examined when quite uncovered.

Perfumes were evidently known to the Greeks in the time of Homer, who seems quite at home at the toilet, for, in decorating Juno for her Imperial husband, he says

" Swift to her bright apartment she repairs,
Sacred to dress, and Beauty's pleasing cares :

* * * * *

Here first she bathes ; and round her body pours
Soft oils of fragrance, and ambrosial showers :

* Book xiv. c. 12.

The winds perfumed, the balmy gale convey
Through heaven, through earth, and all th' aerial way ;
Spirit divine ! whose exhalation greets
The sense of gods with more than mortal sweets."

Iliad, 14th book.

The Greeks appear to have learnt the more common use of perfumes from the Persians ; for when Alexander took the camp of Darius, he found among the royal treasures a great quantity of rich perfumes and costly ointments. From Greece this effeminate practice was carried to Rome, where its abuse became so excessive, that Nero, that compound of folly and vice, had his feet anointed with the most expensive odours ; and he is said to have burnt more incense at the funeral pile of his wife Poppaea than the whole of Arabia produced in a year.

" I cannot ascertain," says Pliny, " when this enormity first entered Rome ; but it appears upon record, that after the subduing Antiochus, and the conquest of Asia, P. Lici-nius Crassus, and L. Julius Cæsar, the Cen-sors, published an edict, prohibiting the sale of foreign ointments in Rome. But in these days, it has entered into our very camps, and the old standards and ensigns and eagles are anointed and perfumed, as if it were to re-war-d them for conquering the world. Men

are now so wanton and delicate, that notwithstanding they are besmeared in every part of their bodies with odorous ointments, yet they cannot take their wine unless it be spiced and aromatized with balms: so as they get sweet smells, they care not for the bitter taste, or the treasure they expend."

When L. Plotius was banished, and proclaimed an outlaw, by a decree of the triumviri, (Antony, Lepidus, and Octavius,) he would have escaped, being closely hid in a cave at Salernum, but was discovered by the smell of the precious ointment on his person.

As we digress to please, we hope for pardon, and return to lavender, under the name which it appears to have borne with the prince of the Latin poets, who, in describing a situation for the hive, says,

“ *Hæc circum Casiae virides, et olientia latè
Serpilla, et graviter spirantis copia thymbræ.*”

VIRGIL's *Georgics, 4th book.*

“ The verdant lavender must there abound,
There savory shed its pleasant sweets around;
There buds of purple violets should bloom,
And fragrant thyme the ambient air perfume.

Lauderdale.

Theophrastus, in earlier days, seems to have mentioned this plant under the title of *Cneorus Albus*.

D. Rembert Dodoens, who wrote his *Herbal* in the time of Henry the Eighth, says, “the English call it Spike, and Lavender;” which is also a proof that it was then cultivated in this country.

Gerard notices six varieties that were cultivated in our gardens as early as the reign of Elizabeth: one of these species, the cut-leaved, (*multifida*,) he says is called in English, *Cassidonia*, which seems to be derived from the *Casiæ* of Virgil.

It does not appear that the English were addicted to the use of perfumes in the time of Henry the Eighth, or in the reign of Elizabeth; but both Dodoens and Gerard recommend those who have the palsy or apoplexy to wash themselves with lavender-water, or anoint their limbs with the oil made from its flowers; though the latter author condemns the practice of “unskilful apothecaries and foolish women,” who give this and other hot compositions inwardly to all constitutions and for all diseases. Conserves of lavender were much used in the time of Gerard for various complaints.

It is far from our intention to condemn the moderate use of perfumes, as it would be extremely hard to debar those who reside

in crowded cities from partaking of the sweets of nature; but we would recommend the old practice of laying clean linen in lavender, in preference to throwing the extract of it on dirty clothes.

Lavender is in a very eminent degree cephalic and nervine, and may be safely employed to sweeten the air of sick rooms, when the state of the patient, or the atmosphere, will not admit of purer circulation. It is the chief of all the cephalic plants, being very comfortable and reviving, under faintings and languishments of the brain and heart; whence it is very proper in lethargies, apoplexy, palsy, and epilepsy. Lavender, given in a phrensy proceeding from an inflammation, infallibly destroys the patient; but it is good for vertiginous old persons, and distempers owing to dulness, and want of spirits.*

The spirit of lavender is still esteemed in palsies, vertigoes, lethargies, tremours, &c. The oil is particularly celebrated for destroying the *pediculi inguinales*, and other cutaneous insects. Geoffroy says, if soft spungy paper, dipped in the oil, be applied at night

* Dr. R. James.

to the parts affected, the insects will certainly be found dead in the morning.

Lord Bacon says, sweet odours contribute to health by refreshing the spirits, and causing cheerfulness. This should induce us to plant lavender more abundantly in our gardens and shrubberies, where its bluish leaves form a pleasing variety, and its aromatic spikes give an agreeable odour. We would wish to see this fragrant shrub occupying many banks in parks and plantations, where the common passenger might imbibe good humour from this reviving plant. It is easily propagated either by seeds, cuttings, or slips; and as the shrub gets older, the flowers become more fragrant, on the same principle that the fruit of an old tree is the most delicious, or the wine made from old vines, the richest and most agreeable.

The lavender blossom has given name to a colour, that is the gayest worn by our fair young quakers, who are as attractive in their neatness, as the Egyptian Queen in her robes of Tyrian dye.

It is as luxurious as it is ingenious to have our desserts brought to table on a service of lavender spikes, and it is equally pleasing to see young females thus embellish-

ing those rooms of which they are the greatest ornament.

There are lavender gardens of considerable extent in the neighbourhood of London, and the lavender-water of British distillation is now generally preferred to that of France.

The oil made of this plant is called oil of spike; but the shops generally make it with turpentine, impregnated with the flowers; and the turpentine has indeed the smell, but not all the virtues of the flowers communicated to it. The true oil of spike should be made only of the flowers with water.*

* James.

LETTUCE.—LACTUCA.

Natural order, Compositæ. A genus of the Syngenesia Polygamia Æqualis class.

THE Latins gave this plant the name of *Lactuca* from *Lac*, on account of the milky juice with which it abounds. The French, for the same reason, call it *Laitue*; the English name Lettuce is a corruption of either the Latin or French word, and in all probability originated from the former, as several of our old authors spell it *Lecture*.

That this vegetable was in early times esteemed of the first rank among pot-herbs and salads, we learn from an anecdote related by Herodotus, and which also proves that lettuces were served in their natural state at the royal tables of the Persian kings at least 550 years before the Christian era. Cambyses, son of Cyrus the Great, had his brother Smerdis killed from mere suspicion, and, contrary to the laws, married his sister: this princess being at table with Cambyses, she

stripped a headed lettuce of its leaves; when, the king observing that the plant was not so beautiful as when it had all its leaves, "It is the same with our family," replied the princess, "since you have cut off a precious shoot." This indiscreet allusion cost her her own life.

Pliny tells us, that the ancient Romans knew but one kind of lettuce, which was a black variety, that yielded a great quantity of milky juice which caused sleep, therefore it was called *Lactuca*.

It is reported, adds this author, that Antonius Musa, a physician, cured the emperor Augustus Cæsar of a dangerous disease by means of the lettuce. Other authors notice that Augustus was eased of the violence of his disease by the use of this plant; which circumstance seems to have brought the lettuce into esteem at Rome; as Pliny says, after that time there was no doubt about eating them, and men began to devise means of growing them at all seasons of the year, and even preserving them, for they were used in pottage as well as in salads.

Columella notices the qualities of this plant,

"And now let lettuce, with its healthful sleep,
Make haste, which of a tedious long disease
The painful loathings cures."

Athenæus and Constantine Cæsar say, that the Pythagoreans called this plant the Eunuch; and the ancients fabled, that after the death of Adonis, Venus lay upon a bed of lettuce; which evidently shews that they were acquainted with the cooling and opiate nature of this vegetable, which is still thought more salutary for those whose religious profession enjoins them a life of celibacy, than for settlers in new colonies.

We learn also from Pliny, that the Greek lettuce was a variety that grew both high and large, and that the Romans, in his day, cultivated the purple lettuce with a large root that was called *Cæciliæ*. They had likewise the Egyptian, Cilician, and Cappadocian lettuce, besides the *Astylis*, or the chaste lettuce, which, he says, was often called *Eunuchion*, because it was thought less favourable to Venus than other plants. This naturalist adds, they were all considered cooling, therefore eaten principally in the summer. Great pains were used to make them cabbage: they were earthed up with sea-sand, to blanch them and give them heart. The white lettuce was noticed, in that mild climate, to be the least able to endure cold.

The Romans esteemed this vegetable as a

clearer of the senses. They were anciently eaten at the conclusion of their supper; but in the time of Domitian, they changed this order, and served them with the first entries at their feasts.

Martial notices this change in his verse.

“ *Claudere quæ cœnas Lactuca solebat avorum,
Dic mihi, cur nostras inchoat illa dapes?* ”

The wild lettuce as well as the cultivated, was used medicinally by the Romans; and Palladius, a Greek physician, notices their culture in his treatise on fevers.

We find no attempt made to cultivate the lettuce in this country, until the fourth year of Queen Elizabeth's reign, 1562; but in 1597, Gerard gives us an account of eight kinds of lettuce, that were then cultivated in England. He says, “ Lettuce maketh a pleasant sallade, being eaten rawe with vinegar, oil, and a little salt: but if it be boiled, it is sooner digested, and nourisheth more.” He adds, “ It is served in these daies, and in these countries, at the beginning of supper, and eaten first before any other meat; but notwithstanding, it may now and then be eaten at both those times to the health of the bodie: for being taken before

meate, it doth many times stir vp appetite : and eaten after supper, it keepeth away drunkenness which cometh by the wine; and that is by reason that it staieth the vapors from rising vp into the head." He says, " Lettuce cooleth a hot stomake, called the heart-burning," &c. &c.

We now cultivate, in the neighbourhood of London, thirty varieties of this plant, all of which are esteemed in salads. Some of them are natives of Egypt ; others have been procured from Aleppo, Cos, Holland, Marseilles, Silesia, Savoy, South America, Sweden, Italy, Hungary, Germany, and the East Indies ; the latter can only be grown in a hot-house.

It should be remarked, that none are so good to boil or stew, or to thicken soup, hodge-podge, &c., as the Roman or cabbage lettuce.

The young leaves of garden lettuce are emollient, cooling, and in some small degree laxative and aperient, easy of digestion but of little nourishment ; salubrious in hot bilious indispositions, but less proper in cold phlegmatic temperaments. In some cases they tend to promote sleep, by virtue of their refrigerating and demulcent quality.*

* Lewis.

Galen says, " In the decline of age, which is naturally wakeful, I suffered very much by want of sleep ; for which disorder, I used in the evening to eat a lettuce, which was my sovereign and only remedy. Many boil this tender herb in water, before it produces stalks ; as I myself now do, since my teeth begin to fail me."

Dr. Aston tells us, that the milk of the common garden lettuce is hypnotic, while the root of the plant is cooling, diluent, and nourishing.

This plant is cooling, and causes an inclination to sleep, upon which account it procures ease in pains, both taken inwardly, and externally applied.

Schroder was of opinion, that it afforded considerable nourishment, and much increases milk when eaten by nurses.

The *Historia Plantarum* states that no herb more powerfully resolves, and brings away the black bile.

Lettuces are said to render the chyle easily condited ; and are recommended to young people on account of their cooling nature.

M. Bourgeois observes, that the different kinds of lettuce, although very good for persons of strong stomach and good digestion,

are very injurious to cold weak stomachs, as they pass undigested ; they disagree very much with hypochondriac persons, and females who are troubled with hysterics.

Turned lettuce, when dried and put on the fire or on hot coals, sparkles like nitre.

Young lettuce may be raised in forty-eight hours, by first steeping the seed in brandy, and then sowing it in a hot-house.

The seeds of this plant are of an emollient nature.

ENDIVE.—CICHORIUM.

THIS plant is a species of succory, and is arranged under the same class and order as the lettuce.

Modern botanical writers state, that the common garden endive is a native of the East Indies, without noticing what the ancient European authors have said of it.

Ovid mentions it in his tale of Philemon and Baucis :

“ A garden salad was the third supply,
Of endive, radishes, and succory.”

Columella thus notices this vegetable,

“ And endives, which the blunted palate please.”

This plant was eaten both as a pot-herb and a salad by the Romans. Pliny notices it in the 8th chapter of his 20th book, and informs us that the endive, or garden succory, furnishes many effectual properties in medicine; that the juice of this plant, mingled with rose-oil and vinegar, was used to allay pains in the head; and that when mixed with wine it was thought good for complaints of the liver.

Some of our writers (says this author) name the wild endive *Ambubeia*; and in Egypt they call wild endive *Cichorium*, and the cultivated, *Seris*.

Horace notices this plant under the name of *Cicorea*.

— “ Me pascunt olive,
Me Cicorea, levesque malvae.”*

It is one of the plants with which the magicians, in credulous ages, used to endeavour to impose on their too easily seduced believers. They affirmed, that if persons anointed their bodies all over with the juice of this herb mixed with oil, it would make them appear, not only so amiable that they would win the good will and favour of all men, but that

* Lib. i. Ode 31.

they would easily obtain whatever they set their hearts upon. We can match this credulity in modern times, by that of the disciples of Johanna Southcot.

The garden-endive appears to have been first cultivated in England in the reign of Edward the Sixth, 1548; but the wild endive or succory, *Intubus*, being indigenous to the soil, was sown in all probability at a much earlier period, both as a pot-herb and as a salad, as Old Gerard informs us, that “the leaves of these wilde herbes are boiled in pottage or broths for sicke and feeble persons that haue hot, weake, and feeble stomacks, to strengthen the same.” This early and excellent English herbalist notices that the wild endives “do growe wilde in sundry places in Englande, vpon wilde and vntilled barren grounds, especially in chalkie and stonie places.” He also gives an account of the manner by which the garden-endive was preserved for winter use in the time of Queen Elizabeth.

“ Endiue being sown in July, it remaineth till winter, at which time it is taken vp by the rootes, and laide in the sunne or aire for the space of two houres; then will the leaues be tough, and easily endure to be wrapped vpon

an heape, and buried in the earth with the rootes vpwards, where no earth can get within it, which, if it did, would cause rottenness ; the which, so couered, may be taken vp at times conuenient, and vsed in sallades all the winter, as in London and other places is to be seene ; *and* then it is called white endive." He adds, " these herbes eaten in sallades or otherwise, especially the white endive, doth comfort the weake and feeble stomacke, and cooleth and refresheth the stomacke ouer-much heated."

Galen, who wrote in the second century, mentions this plant as an excellent medicine for a heated liver. Many of the Romans attributed the astonishing cures performed by that physician to magic, and thought that he had obtained all his knowledge by enchantment. Galen, however, confessed himself indebted for his medical knowledge to the writings of Hippocrates, which had then been preserved 550 years : this should be an inducement for us rather to learn the opinions of the ancients, than to condemn them unknown.

Endive is now cultivated in this country more as a winter and spring salad than for any other purpose ; although it is excellent

in pottage and soups. Modern physicians begin to discountenance the use of raw vegetables, and reason tells us, that too free a use of salads in the winter season cannot be beneficial to the generality of constitutions in this country ; yet we find our late adventurers to the North found it desirable to grow green salads in their ships, for the benefit of the sick, when they were within a few degrees of the North Pole.

We now cultivate eight varieties of endive.

DANDELION.—LEONTODON.

This despised vegetable, although an excellent salad herb, belongs to the family of the succory and endive, and is botanically arranged under the same order and class as the lettuce.

We find the Romans named most plants from their similarity to some well-known object, or in allusion to some virtue which they were supposed to possess; on examining the leaves of the dandelion, they will be found cut or jagged, like the teeth of a lion, and which is expressed by the name *Leontodon*. The French name this plant *Dent de Lyon*, from *Dens Leonis*, lion's tooth, from which

the English name of Dandelion is a corruption. The French eat the stalks and tender leaves of this plant with bread and butter.

Children that eat of the dandelion in the evening experience its diuretic effects in the night ; from which cause, other European nations, as well as the English, have bestowed on it a more vulgar name. Notwithstanding this uninviting appellation, we have always found it desirable to have some plants taken from the pastures or road sides, and planted in our garden to blanch for the spring, as it is then an agreeable herb to mix with other salads, and may be procured when lettuce or endive are not easily obtained.

We are told that when a swarm of locusts had destroyed the harvest in the island of Minorca, many of the inhabitants subsisted upon this plant, without any ill effect.

Goats are fond of the dandelion, and swine devour it greedily ; sheep and cows are not fond of it, and horses refuse it. Small birds hunt for the seed, which they seem to relish.

Boerhaave greatly recommended the use of this vegetable in most chronical distempers, and held it capable of resolving all kinds of coagulations, and the most obstinate

obstructions of the viscera, if it were duly continued.

The dandelion is cooling and aperitive, and a diuretic that is good to cleanse the kidneys and bladder. It is boiled in posset drink, and frequently used in all kinds of fevers.*

Parkinson recommends a decoction of the leaves and roots in wine or broth for a consumption, or any ill habit of body. The leaves, as they get old, are very bitter, and give a faint tincture of red to blue paper; the roots give it much deeper: they are bitter, styptic, and deterotive. Tragus prescribed the water of this herb in internal inflammations; and Barbette advised the juice to be taken for the same complaint.

* James.

MARIGOLD.—CALDULENA.

Natural order, Compositæ. A genus of the Syngenesia Polygamia Necessaria class.

THE generic name of *Calendula* is thought to have originated from its having been observed to flower most about the calends of every month.

“Fair is the Marygold, for pottage meet.” GAY.

The common Marigold, or *Calendula officinalis*, is a native of the south of Europe, and is said to have been cultivated in this country prior to 1573. Dodoens, whose Herbal was written previous to this date, says the English call them Marigolds and Ruds: he observes, they grow in every garden where they have once been sown, as they yearly spring up from the fallen seed.

We have often seen this plant in situations that have called to mind those lines of Goldsmith,

“Where once the garden smiled,
And still where many a garden flower grows wild.”

Gerard describes several species and varieties of marigolds that were grown in our gardens previously to 1597; and the species now alluded to, *Calendula sativa*, he says, was so much used in Holland, that "the yellow leaves of the flowers are dried and kept throughout Dutchland against winter, to put into broths, in phisicall potions, and for diuers other purposes, in such quantities, that in some grocers or sellers of spices houses are to be found barrels filled with them, and retailed by the pennie, more or lesse, in so much that no broths are well made without dried marigolds."

Most of the old physicians recommend the conserves made with the leaves of this flower and sugar, to be taken as a preventive against the plague or other pestilential diseases. They also state that these preparations cure the palpitation of the heart. Marigold tea was one of the domestic medicines given in agues, and often with success. We cannot avoid noticing how much less frequent this disorder has become within these last twenty-five years; and we attribute it principally to the improved state of the cultivation of our lands. The rapid advance in price of every agricultural production at the commencement

of the war occasioned by the French Revolution, induced the farmers to drain their lands where formerly waters were suffered to congregate and become stagnated, and where vegetable matter would naturally putrefy and corrupt the air. In justice to the age we live in, it must be remarked that the lower orders of the country people were never better fed or clothed than during the late war, notwithstanding the high price provisions bore, which circumstance also proved a powerful defence against this autumnal complaint.

The ancient authors make but slight mention of the marigold ; Columella notices it in his 10th book, under the name of *Calthæ*.

“ Candida Leucoia et flaventia lumina Calthæ.”

Stock gilliflowers exceeding white,
And marygolds most yellow bright. GERARD.

Virgil notices the flower in the second Eclogue of his Bucolicks.

“ Cassia and Dill are added to the store,
With cowslips, marigolds, and many more
In order wove, a garland to complete,
Adorn'd with every flow'r and every sweet.”

Gay, in his burlesque Pastorals, gives this riddle :

“ What flower is that which bears the Virgin’s name,
The richest metal joined with the same ?”

The flowers of the common marigold are thought to be aperient and attenuating, as well as cardiac, alexipharmac, and sudorific ; they are greatly esteemed in uterine obstructions, and the jaundice, as also for throwing out the small pox and measles. The leaves of the plant are said to be antiscorbutic, and are of a stimulating and aperient nature. The young leaves were formerly eaten as a salad, and they are said to be a proper food for those that have any scorbutic taint in their constitution.

The leaves of the plant appear to be of greater virtue than the flowers : their expressed juice has been given, in doses of two or three ounces or more, as an aperient; and is said to loosen the stomach, and promote the natural secretions in general.*

The petals are of an aromatic smell, and when chewed, exert a penetrating and almost burning acrimony : hence they derive their sudorific virtues ; in which, says Dr. James, they are scarce inferior to saffron itself. For this reason, the flowers of the marigold have merited a place among the catalogue of alexi-

* Lewis.

pharmacs ; and, according to Schulzius, in his *Prælectiones*, have had uncommon efficacy ascribed to them by some very celebrated physicians, in the cure of malignant and pestilential fevers. Velschius informs us, that upon the breaking out of a pestilential fever, Le Fevre prescribed the juice of the marigold, to be taken in white wine as a vehicle ; by which most of the patients who used it recovered ; and that this same medicine was the celebrated *arcanum* of Veslingius.* Ray says, “The flowers may properly be prescribed wherever stimulating medicines are necessary ; and by reason of their resolvent and aperient qualities, they are used in decoctions for the cure of the jaundice.

This plant has been called *Verrucaria*, on account of its efficacy in extirpating warts. Some have called it *Solsequia*, or *Solsequium*, and *Sponsa Solis* ; because its flower opens at the rising, and shuts at the setting of the sun.

It was an old practice with dairy-women, to churn the petals of the marigold with their cream, to give their butter a yellow colour.

* Eph. N. C. D. 1. a. 4.

MILLET.—MILIUM.

Natural order, Gramina. A genus of the Triandria Digynia class.

It is supposed to have derived the name of *Milium* from *mille*, a thousand, because of its numerous seeds.

“ To every land great Nature hath assign’d
A certain lot, which laws eternal bind.”

VIRGIL, *Georg. book i.*

The Ethiopians inhabiting that part of Africa now called Abyssinia, knew no other bread or gruel than that which was made from millet or barley ; yet they were complimented by Homer, who styled them the favourite of the gods, and the justest of men ; and it is a singular fact, that their country has never been invaded by a foreign enemy.

Millet is also a native grain of Tartary, and, when mixed with mare’s milk or horse’s blood, (which was obtained by opening a vein in the leg of this useful animal,) it formed the

principal food of those savage Sarmatians whose hordes destroyed the Roman empire, and whose barbarism nearly extinguished civilization in Europe.

This grain was cultivated in Italy in the time of Columella, who mentions it as growing abundantly in Campania. Virgil also notices it in his *Georgics* :

“ Sow beans and cinquefoil in a mellow soil,
And millet, springing from your annual toil.”

Pliny notices, that the inhabitants of Campania very much esteemed their millet, with which they made a white pottage or gruel, and also bread of a savoury and sweet taste. This author says, no good husbandman will sow millet in his vineyard, or among fruit-trees, as it destroys the very heart of the ground.

The variety producing a black seed is not a native of France, as stated in the *Hortus Kewensis*, and other botanical works; as Pliny tells us*, that it was first brought out of India into Italy, about ten years before he wrote his *Natural History*. He observes, that it was the most fruitful of all grain, as

* Book xviii. chap. 7.

one seed would give an increase of three sextans or quarts, if sown in a moist soil.

Millet was used by the Romans in all cases where hot fomentations were applied ; as it retains the heat longer than any other grain. The meal of this seed, mixed with tar, was esteemed a good plaster for those who had been stung by serpents, or pricked by the multipede.

That Italy was not free from the most absurd superstition, even in the most enlightened days of the Roman empire, we have an instance in the manner of their cultivating millet. Sparrows and other small birds are apt to make great havock in fields of millet ; to prevent which the Roman farmers carried a toad round the field after it was sown and before it was harrowed. The reptile was then put in an earthen pot, and buried in the middle of the field. This, they were assured, would protect the roots from the worm, and the seed from birds. The toad was always dug up before the millet was cut, the neglect of which, they believed, would cause the seed to be bitter.*

Botanists name five species of this grain.

* Pliny, book xviii. chap. 17.

Those described are varieties of the *panicum*, or common millet. We are principally supplied from India, although it is sometimes sown in this country for feeding of poultry. Puddings made from this seed are much admired by many persons, and esteemed a proper diet for the nursery. The seed should be sown in April, on a warm dry soil.

Millet is diuretic and astringent ; the seeds are said to be of extraordinary service in diseases of the lungs, and exulcerations of the kidneys : made into a cataplasm, they are anodyne and resolvent.*

According to Miller, it is cooling, drying, and binding, and not easily digested ; a strong decoction of it with figs and raisins, mixed with wine, and drunk warm in bed, is a very good sudorific.

Among the Italians, says C. Bauhine, loaves are made of millet, which are yellow, and eaten hot by many, not out of necessity, but for their sweetness ; but when this bread is grown hard, it is quite black. Of the fine flour of millet the Italians make cakes also, which must be eaten as soon as dressed, or else they become glutinous, and unpleasant to the taste.

* Hist. Plant. adscript. Boerhaave.

MARJORAM.—ORIGANUM.

Natural order, Verticillatæ. A genus of the Didynamia Gymnospermia class.

THIS plant is a native of Cyprus and Candia, and is found also in Italy, Spain, and Portugal. From the latter country the English first obtained the seed of the sweet or knotted marjoram, in the year 1573. The Candia marjoram, *Dictamnus*, had been introduced in 1551: this species of origanum is the Dittany of Crete, so much celebrated by the ancient poets. It is the plant which Venus is said to have brought for the cure of her son Æneas.

“ A branch of healing dittany she brought,
 Which in the Cretan fields with care she sought,
 (Rough is the stem, which woolly leaves surround;
 The leaves with flowers, the flowers with purple
 crown’d,)
 Well known to wounded goats; a sure relief
 To draw the pointed steel, and ease the grief.”

VIRGIL, *Aen.* book xii.

We are told that the use of this plant was taught to man by the harts ; for that, when these animals were wounded with arrows, they ate plentifully of dittany, which had the effect of discharging the darts out again. The ancient traditional tale on this plant shews how far the sycophants of kings would formerly venture. The flatterers of Cinyras, King of Cyprus, to please his humour, and console him for the death of his son Amara-cus, assured him that this youth, while carrying a box of fragrant ointment through the fields of herbs, by accident spilt it on this shrub, which from thence received its excellent savour. The prince mourning for the loss of his ointment, the Gods in consider-ation of his parentage and merit, changed him into that herb, which was from that time called, after his name, *Amaracus*.

Catullus, in the epithalamium of Julia and Manlius, notices this plant :

“ Cinge tempora floribus
Suave olentis Amaraci.”

Bind your brows with the flowers of sweet-smelling marjoram.

Majorana, the sweet or knotted marjoram, the leaves or tops of which have a pleasant

smell, and a moderately warm aromatic bitterish taste, is mixed in food, not only to make it more savoury, but to assist digestion and correct flatulencies.

This plant is accounted cephalic, and useful in nervous complaints. In its recent state, we are told, it has been successfully applied to schirrous tumours of the breast.*

M. Bourgeois says, it is a specific for apoplexia and paralysis, the infusion being taken in the form of tea; and it is employed in wine to foment paralysed limbs, which it strengthens.

Hartman assures us, that it restores the sense of smelling, when lost. It is also recommended for sneezing disorders.

There is no plant more celebrated by Hippocrates, than *Origanum*: he recommends it in diseases which require heating, dissolving, and stimulating; whence it is beneficial in exulcerations of the lungs, being boiled in wine, and then sweetened with honey, and drunk hot. Thus prepared, it is said to be a good medicine for expectorating phlegm. It was also esteemed for diseases of the kidneys; for it is aperient, dissolvent, and balsamic.

* Woodville.

A tea of the leaves is effectual in the asthma, violent coughs, and indigestion ; and, in baths, the leaves are used for the hysterick passions, chlorosis, and palsy. *Origanum* provokes sweat, and is proper in soporous, hysterick, and catarrhous disorders.*

The sweet marjoram yields a considerable quantity of essential oil, which, when long kept, assumes a solid form, and was formerly much esteemed for anointing stiff joints, for the palsy, &c.

In the time of Queen Elizabeth, the leaves were much used in broths and meats, as well as in wafer cakes, ointments, &c.

Gerard says, the leaves boiled in water, and the decoction drunk, is good for those who are breeding dropsy.

Miller enumerates thirteen species, and Linnæus eleven. The *Hortus Kewensis* mentions ten kinds of marjoram, one variety of which, *Vulgare*, is a native of this country, and is often found growing wild on our chalky hills, and in gravelly soils.

The sweet marjoram seldom ripens its seed in England.

The pot-marjoram, *Onites*, is a native of

* Hist. Plant.

Sicily; it grows plentifully in Syracuse, and also in some parts of Greece; it was first cultivated in Britain in 1759. It has the same qualities as the common varieties, but is more woody.

MINT.—MENTHA.

Natural order, Verticillatæ. A genus of the Didynamia Gymnospermia class.

THE Greeks called this herb, *Mirθn*, and the ancient poets tell us it was so named from one of Plutus's minions, whom he turned into this plant.

Miller enumerates eighteen species of mint, two thirds, at least, of which are natives of this country.

The use of this refreshing herb did not escape the notice of the ancients. Man would naturally be induced to seek reviving and stimulating plants for the sick and feeble; and we are told that balm and mint were among the earliest medicines thus selected. We may conclude that those simples were more efficacious when the body was less accustomed to the luxurious and complicated diet which art has introduced, and which has made it necessary for the students of medicine to extend their research for more

powerful remedies. We are informed, that a boy who was found in a forest, where his diet must have been very simple and his exercise strong, had a most acute sense of smell, by which he could distinguish all herbs and plants ; but this delicacy soon wore off when he lived and fed like other men.

It appears by Ovid's story of Baucis and Philemon, that rustics perfumed or scuttred their tables with this herb before serving their suppers.

“ Then rubb'd it o'er with newly gather'd mint,
A wholesome herb, that breathed a grateful scent.”

Pliny says, “ You will not see a husbandman's board in the country, but all the meats from one end to the other, are seasoned with mint. As for the garden mint,” says this author, “ the very smell of it alone recovers and refreshes the spirits, as the taste stirs up the appetite for meat, which is the cause that it is so general in our acid sauces; wherein we are accustomed to dip our meat.”

The Romans were well acquainted with its medicinal virtues, as the same writer informs us, that mint being put into milk would keep it from turning sour, or curding; and for this reason, he says, “ those who gene-

rally drink milk, take mint with it, for fear it should coagulate or curdle in their stomachs.

The most useful kind of garden-mint is the *Viridis* (green), commonly called spear-mint, on account of its leaf being narrower, and more like a spike or spear, than the other varieties. M. Valmont Bomare, calls it English mint, and says it originally grew in this country only.

The leaves and tops of spear-mint are used in spring salads, as also in acid sauce with roasted lamb, &c. It is boiled with green peas, and generally used in pea soup on account of its carminative quality: it has the virtue also of being a warm stomachic. In loss of appetite, nausea, and continual retching, there are few simples of equal efficacy to this. In colic pains, to which children are subject, this plant is found of great service: it likewise proves beneficial in many hysterick cases. For some purposes, such as languors, &c. an infusion of the dried herb is better than the green, or extract prepared with rectified spirits: the former possesses the whole virtues of the mint; the essential oil and distilled water contain only the aromatic part; the expressed juice, only the

astringency and bitterness, together with the mucilaginous substance common to all vegetables.

It should be cut for drying, just when it is in flower, and on a fine day; for, if cut in damp weather, the leaves will turn black. It should be tied in small bunches, and dried in a shady place out of the wind; but, to retain its natural virtues more effectually, it has been found better to place the mint in a screen, and to dry it quickly before a fire, so that it may be powdered, and immediately put into glass bottles and kept well stopped. Parsley, thyme, sage, and other herbs, retain their full fragrance when thus prepared, and are by this mode secured from dust, and always ready to the hand of the cook.

A conserve made of mint is grateful, and the distilled waters, both simple and spiritous, are much esteemed. The juice of spear-mint drunk in vinegar, often stops the hiccup. Lewis observes, what has before been noticed by Pliny, that mint prevents the coagulation of milk, and hence is recommended in milk diets. When dry, and digested in rectified spirits of wine, it gives out a tincture which

appears by day-light of a fine dark green, but by candle-light of a bright red colour; a small quantity is green by day-light or candle-light; a large quantity seems impervious to day-light, but when held between the eye and the candle, or between the eye and the sun, it appears red. If put into a flat bottle, it appears green sideways; but when viewed edgeways, red.

According to Turner, the smell of mint corroborates the brain, and not only preserves, but also increases the memory.

PEPPERMINT.—PIPERITA.

This species of mint is also indigenous to Britain, and is said by the French botanists to have been found only in this country. The peppermint has a smooth purple stalk, and cannot be mistaken, from its penetrating smell, and more pungent glowing taste; sinking, as it were, on the tongue, which is followed by a sensation of coldness that is very agreeable. It is still much cultivated, for medicinal purposes, as well as for distillation. A cordial is made from this plant, much admired by country people.

This mint is esteemed by some to be an excellent remedy for the stone and gravel; which seems to be very probable, for, besides its heat and biting, it has also a very discernible nitrous taste.*

Its stomachic, antispasmodic, and carminative qualities render it useful in flatulent colics, hysterical affections, retchings, and other dyspeptic symptoms, in which it acts as a cordial, often affording immediate relief. The essence of peppermint was formerly thought an elegant medicine.

Bergamot mint, *Odorata*, is only cultivated for pleasure.

The mint, *Mentha aquatica*, growing in watery places, is said to relieve the head-ache, if the leaves are applied to the forehead; as also the sting of bees and wasps. Mints of all kinds are thought destructive to worms. It is a common practice to rub the inside of bee-hives with mint and honey, or sugar, before the swarm is covered with it, as it is supposed to attach them to the new hive.

* Miller, Bot. Off.

PENNYROYAL.—PULEGIUM.

This favourite mint of the ancients was called by the Greeks Γλυκων, and Βλαττος, from *βλαττη*, *balatus*, either because the heat of the plant caused sheep and goats to bleat when they ate of it, or, according to Pena, from its virtue in expelling thick phlegm from the lungs.

This plant was formerly called Pudding-grass, from the old custom of using it in hogs puddings; it was also named *Run by the ground*, and *Lurk in ditch*, from its creeping nature, and loving a damp soil: it is generally found in the neighbourhood of holes and ponds, on damp or swampy commons, where the soil is more inclined to clay than peat.

Gerard says, it grew in great abundance on a common near London, called Miles-end, from whence it was brought to market in great abundance, in the time of Queen Elizabeth. We have not been able to discover by what accident this native mint or aquatic thyme was called Pennyroyal; it was previously called Puliall royall.

Coles notices six varieties of the pennyroyal ; but Miller enumerates only three.

Its qualities are nearly the same as those of other mints, except that, being milder, it is not so efficacious. It has been greatly recommended in dropsies, jaundice, and other chronic distempers.

Pliny tells us, that several physicians met in his chamber to consult on the virtues of this herb, and that they all agreed, that a chaplet of pennyroyal was, without comparison, far better for the giddiness and swimming of the head than one of roses ; and that they were of opinion, that if a garland of pennyroyal were worn, it would not only ease the head from pain, but that it would preserve the brain from disorders, which are brought on by either heat or cold.

Xenocrates relates, that pennyroyal wrapped in wool, was given to those to smell who had the ague, and that it was put under the coverings of the beds of those who suffered under that disease.

Dodonæus informs us, that this herb, when fresh and in blossom, will, by its perfume, keep flies out of a room. The same author states, that when necessity obliges us to drink corrupt, stinking, or saltish water, we

may improve it, by throwing into the water either fresh or dried pennyroyal.

Coles makes the same remark; and Gerard says, "if this herb be dried, and taken to sea, it will purify corrupt water without hurting those who drink of it." He adds that, "pennie royall taken with honie, cleanseth the lungs, and cleareth the breast from all grosse and thick humours."

This plant, which is very bitter, acrid, and of a penetrating smell, gives a deep tincture of red to blue paper; so that, it is probable, it contains a volatile, aromatic, and oily salt, loaded with acid: whereas, in the artificial, volatile, oily salt, this acid is detained by the salt of tartar. Thus this plant is aperient, hysterick, and good for the diseases of the stomach and breast; since it expels those glutinous sordes which fill part of the bronchia, and vesicles of the lungs, especially if it is boiled with honey and aloes; for then it purges, and procures expectoration.*

* *Dioscorides, James.*

MOSS.—MUSCUS,
AND LIVERWORT, LICHEN.

LINNÆUS arranged these species of vegetables in the twenty-fourth class of his artificial System, under the name of *Cryptogamia*, which signifies concealed marriages; and it was intended to comprehend all those plants whose fructification is concealed, or at least too minute to be observed by the naked eye.

In the Linnaean system mosses are divided into nine genera: viz. *Lycopodium*, *Porella*, *Sphagnum*, *Phascum*, *Polytricum*, *Mnium*, *Hypnum*, *Fontinalis*, and *Buxbaumia*. As we now reckon more than 360 species of mosses and liverworts, the greater part of which are natives of Britain, their particular description must be reserved for a separate volume; but, as many of the mosses are deserving of more general notice than they have hitherto obtained, we trust that the few pages we shall

offer on this subject will not be thought irrelevant in a history of cultivated vegetables.

Mosses, in general, were originally thought imperfect plants, until the year 1719, when the seed of some of the varieties was discovered; and in 1741 this circumstance was made more extensively known amongst botanists by Dillen Linnaeus.

The generic name *Muscus* is a word that signifies an herb composed of hairs or threads instead of leaves.

“ Each moss,
Each shell, each crawling insect, holds a rank
Important in the plan of Him who form'd
This scale of beings; holds a rank, which lost
Would break the chain, and leave a gap
That Nature's self would rue !”

The superficial observer of the works of Nature may pass this species of plants without even knowing that they are as perfectly formed as the roses of the garden, or the more majestic oaks of the forest.

The mosses have roots, flowers, and seeds, like other plants. M. Valmont Bomare says, some think mosses are to vegetables, what flies are to animals, and that the word *Mousse* in French was derived from the Latin word *Musca* for fly, which in French is

Mouche. The English name Moss, we conclude, is a corruption of the French word *Mousse*, as we find that it was formerly spelt *Mosse*.

Mosses seem to require little other nutriment than a moist atmosphere, and are so tenacious of life, that they will revive and vegetate on receiving moisture, although in appearance quite dead through being dried by heat. They generally seek situations that are shaded from the sun; and although minute, they are extremely beautiful, and many of them of so hardy a nature, that they both blossom and seed during the winter months, when the sap of most other plants is retired or congealed, in which state their vegetation rests, awaiting the reviving and powerful influence of the sun, again to draw it bubbling forth, and as it forces through the pores of branch and bud, it forms its leaves and flowers, which human art cannot imitate, or the mind of man contemplate without acknowledging it to be the work of Him,

“Who only does great wonders.”

Mosses, although diminutive, grow rapidly: for nothing in nature is allowed to remain stationary, idle, or useless; nor is there any

thing wanting to complete the mighty design, for however inconsiderable the agents may appear to us, they are in the hands of Divine Providence irresistible ; and those things which we may think superfluous, are still necessary and consistent with the great and harmonious scheme.

Philosophers tell us, that the mighty mountains, whose adamantine sides have bid defiance to ages, have at last been rent by the aid of the smallest moss ; and without its assistance the ash, the cedar, the juniper, the palm, or even the thistle, could have found no crevice for their seeds. Rocks of all kinds, when exposed to the air, are soon covered with a velvet kind of moss, which imbibes the moist atmosphere, and collects the passing dust, until it has raised its little feathers, like a miniature forest of pines, out of the earth of its own collecting : this receives the seeds of a larger species of lichen, that usurps the soil of the first occupier, and drives it farther upwards. The second variety collects more rapidly both soil and moisture, until its curling leaves, entangle and cherish the seeds of other plants, which by their more vigorous growth destroy their nurse for their own nourishment : these in their turn receive the

seed of other plants or shrubs, each of which strives for mastery. Thus the moss creeps onwards, the lichen follows, the thistle, the bramble, and the creepers succeed, until every crevice is lost in vegetation ; and their decay alone enables more powerful plants to succeed, until the seed of the ash, and even the acorn, find a receptacle in the rock, where the germ sends forth its fibres, running beneath decayed and living plants, and, finding crevices, forces its thready roots into every vein. There it sucks and swells, until it becomes so powerful that it exercises dominion over the fossil world ; for by the aid of the winds it dislodges large rocks, and manures the hollows with their crumbling stones. Among these, fresh seeds are lodged, until the whole becomes a towering forest. Thus every thing shews infinity of power, conducted by infinite wisdom and goodness in Him, “ who maketh the grass to grow upon the mountains, and herbs for the use of men.”*

Of the early use of moss, Ovid has made mention in his silver age :

— “ Houses then were caves, or homely sheds,
With twining osier fenced, and moss their beds.”

* Psalm cxlvii. 8.

The northern inhabitants still make couches and beds of one kind of moss, which Dillen calls *Sphagnum*; and the variety which he names *Fontinalis antipyretica*, they use in their hearths to prevent accidents, as, being antipyretic, it will neither burn nor communicate fire.

The common moss, *Muscus terrestris vulgaris*, which is generally found in shady lawns, or woods, and in other humid soils, is said to be astringent, and excellent for stopping hæmorrhages. Gerard says, this moss made into powder is good to stop the bleeding of fresh wounds, and also conduces to the cure of cuts, &c. J. Bauhin states, that the empirics learnt this art from the bears, who, when wounded, stop the blood by rolling themselves in this moss.

It is used by the ship-builders in France, to calk their vessels; and by all nurserymen, to preserve the roots of trees and plants which they transport from one place to another, as it keeps them moist. It is also used in pleasure-grounds, to form rustic arbours, as it effectually excludes both the heat and the wind.

The moss called Wolf's Foot, *Pes Lupi*, or *Lycopodium*, is very beautiful, producing

flowers like the catkins of the hazel-tree. This species, according to Hieronymus Tragus, is diuretic, and good for the stone, which it dissolves and discharges.

The Arabian physicians rank mosses and lichens among their cordial medicines, to strengthen the stomach, and to allay vomits.

In Lapland, one species of moss or lichen constitutes the sole winter subsistence of that useful animal the rein-deer, and which is thus noticed by Mrs. Rowden :

“ On Lapland’s breast by stormy tempests toss’d,
'Mid night’s drear winter and eternal frost,
Soon as the Rhen-deer moss erects her head,
The modest emblem of her snowy bed !
Fleet as the wind, the hardy Rhen-deer bounds
Across the dreary waste and frozen grounds ;
Crops with vermillion lips the icy flower,
Or sips, from crystal cups, the fleecy shower.”

In Iceland the inhabitants use it for food: they collect a quantity of lichen, which is then chopped small, and boiled in three or four successive portions of water to take off its natural bitterness. It is then boiled for an hour or two in milk; when cold it becomes a jelly, which, being eaten with cream or milk, makes a very palatable and wholesome dish.

The English name of this species of vegetable, Liverwort, evinces the good opinion our ancestors entertained of the lichen's virtue in all complaints of the liver. It however, went entirely out of use until a few years back, when it was again introduced from Iceland, and was so generally recommended by the faculty, that, during the height of this medicinal fashion, Iceland-moss became an article of considerable commerce ; and we are told, that vast quantities of lichen were brought from the mountains of Wales and Scotland, and sold in the metropolis for the more northerly production ; but the deception appears only to have affected the purchaser in regard to price, as its properties are nearly the same. It is said to strengthen the lungs and create appetite, and is recommended particularly after the hooping-cough. It was formerly given in inflammatory fevers, &c. The ancients recommended it as a remedy against lassitude, and used it in baths and ointments. The grey ground lichen was thought effectual against the bite of a mad dog. It makes the basis of the *pulvis antilyssus*, and it is the principal ingredient in Dr. Mead's receipt for the bite of mad dogs. In the west of England it was

formerly used as a drink for those who had cancers, of which it was thought to assist the cure. This species of moss was at one time called Cheese-renning, from its property of coagulating or curdling fresh milk; and by a dry distillation it yields a manifest acid.

As mosses have in some degree regained their ancient celebrity, we shall briefly state what notices of their virtues appear in the old writers.

Muscus arboreus, or *Lichen arborum*, is the kind which is found growing on trees, and which Gerard and other old medical writers call Liverwoort and Lungwoort, either from its figure, or, as already remarked, from the use then made of it in medicine. Gerard says this "lungwoort is much commended of the learned phisitions of our time against the diseases of the lungs, especially for the inflammations and ulcers of the same, being brought into powder, and drunk with water."

M. Bourgeois informs us, that this kind of moss growing on the oak is a good remedy for the hooping-cough, when powdered; from twenty to thirty grains to be given, according to age. Dioscorides affirms, that it staunches bleeding, removes all inflammation, and cures

the ringworm. Taken internally, he says, it is a remedy for the jaundice ; even that which is occasioned by the inflammation of the liver.

Lord Bacon mentions a sweet moss that grew upon apple-trees, and which, he says, bore a high price in the shops of the perfumers. As we do not meet with it in the herbals of his day, we conclude that the learned chancellor copied the account from Pliny, with whose works he seems to have been perfectly acquainted, and to have made ample use of them in his Natural History. Pliny notices the sweet moss *, and says the best is found in the province of Cyrene, the next in Cyprus, the third in Phœnicia : it grows also, says this author, in Egypt and in Gaul. It was used by the Roman ladies in their baths. When stamped with juniper, and drunk in wine, it was esteemed good in dropsical complaints.†

The species of moss called by Tournefort, *Muscus squamosus abietiformis*, of which Dillen gives the figure under the name of *Selago*, is a purgative and an emetic as violent as the hellebore. The greatest part of mosses are relaxing, destroy worms, and promote perspiration.

* Book xii. c. 23.

† Book xxiv. c. 6.

There is a kind of lichen which L'Obelius entitles *Muscus pyxidatos*, and to which Gerard gave the English name of Cup or Chalice moss, on account of the little cup-like leaves which it produces. It is found in dry, gravelly, and barren banks, of a yellowish white: this was formerly given to children for the chin-cough.

There is a great number of aquatic mosses, all of which, as well as the marine moss, have their various uses in medicine. The species called Sea oak, *Quercus marinus*, is used with success to assuage scrofulous swellings: it is found on most parts of the coast, but particularly in the neighbourhood of Worthing, where immense banks of it are washed on shore in the autumn. It may be known by the little bladders on its leaves, which are similar to the blight on oak leaves; and from thence, we surmise, its name originated. Laver bread is a sort of food made of the sea liver-wort, or oister, green *Ulva*; it is much used in Glamorgan and other parts of Wales, from whence it is often sent to London in earthen pots. It is gently opening, and antiscorbutic.

MUSHROOM.—FUNGUS.

Natural order, Hepaticæ. Linnæus has arranged it in his artificial system, Cryptogamia.

THE generic name of this class of vegetables, *Fungus*, is derived from $\Sigma\piογγος$, on account of its spungy nature. The English word Mushroom is in all probability a corruption of *Mousseron*, the French name of a variety of the Fungus, called *Champignon*.

“ ‘Tis but a part we see, and not a whole.”

POPE.

The Mushroom tribe has, therefore, afforded a wide field for speculation to the naturalists of every age, who have disputed whether it consists of perfect or imperfect plants.

Vegetable nature appears in such a diversity of habits, and propagates its species in such a variety of forms, that we can neither view them, nor inquire into their nature, without being impressed with the most sublime

sentiments of the wisdom displayed in creation.

This class of plants, which the botanists rank as the lowest order of vegetables, has been supposed to assimilate more closely to the animal creation than any other class of the vegetable world.

The ingenious authoress of *Sketches of the Physiology of Vegetable Life*, observes, "The Fungi resemble animals in some of their species, in growing vigorously without light; as is shewn by those found in dark cellars, and by the truffle, which lives and vegetates under ground." She adds, "The animal flavour of the esculent mushroom, and the odour of any kind of Fungus, when burned, resembling that of burning feathers, added to the putrefaction to which the whole tribe are subject, and the scent emitted by them in that state, do not exclude them from the vegetable kind, but afford additional analogical evidence of the affinity between the two kingdoms."

We have still much to learn on the subject of these singular species of plants, which, although they bear so close an analogy to animal life, are evidently vegetables, and produce seed, by which they have been propa-

gated ; but this does not disprove their being produced likewise by putrefaction, of which we have continual instances, and in situations where mushroom seed or dust could not reach. The embryo plants are discovered under the form of a white mouldy, fibrous substance, called *spawn*, and which is caused by certain particles in particular kinds of dung being excluded from light and air. The mouldiness on stale wine or beer, as also on bread and other moist substances, as well as on liquids kept in an open vessel that is excluded from free air, appears like mushrooms, when viewed through a microscope. The dust of this mould will communicate itself rapidly to other substances within its reach ; thus appearing, like the mushroom, to owe its origin both to seed and to putrefaction.

In 1729, Micheli first announced his discovery, that different kinds of mushrooms had flowers and seeds ; and this having been confirmed in 1753 by M. Gleditsch, and in 1755 by M. Battarra, they have therefore divided them into two classes, one of which they suppose to have only seed, the other both flowers and seed. The author has never been able to discover what to him would satisfactorily prove the flowers of this curious

plant ; and concludes that what others have taken for the blossoms, are only the organs of fructification, as he deems the whole mushroom to be but one flower : for though all plants vary in their shape and number of leaves or stalks, &c., yet the blossoms of each species are always regularly the same, even in the most minute parts, unless by some accident they become imperfect ; flower buds are always observed to come out of the earth, or out of the stalks of plants, closed with a thin film, or by the petals folding so closely and exactly over each other that the moist air is perfectly excluded, until the stigma and stamina have acquired their proper size, when the petals or blossoms unfold themselves, that the pollen may be ripened by the sun or air, and the impregnation may take place ; after which the petals fall off, or the flower gradually decays.

The mushroom always comes out of the earth as a bud, which closely protects the interior with a thin skin (the veil), until it has reached its size and the state proper for fructification ; when it expands precisely in the same manner as other flowers, the interior of which uniformly exhibits the same regular arrangement of laminæ, or gills, which seem

to be intended for the purpose of separating the channels of seed : for we find nothing superfluous in nature,—each part necessarily combines to form the whole ; nor is there any thing wanting to complete the admirable formation of vegetables, which by their peculiar actions produce such modifications and substances as must lead us to say, with Thomson,

—“ Tis surely God,
Whose unremitting energy pervades,
Adjusts, sustains, and agitates the whole ;
He ceaseless works alone ; and yet alone
Seems not to work, with such perfection framed
Is this complex, stupendous scheme of things.”

Having given our opinion of the mushroom, rather to induce a stricter scrutiny of its formation, than to shew a desire of deviating from other writers, we conclude it will be somewhat interesting to ascertain the opinions of the ancients with respect to this curious vegetable ; for, notwithstanding their fondness for mushrooms, they had not discovered the art of propagating them.

Pliny says, mushrooms were thought one of the wonders of nature, that they should live and grow without a root, or even small strings to fix them to the earth, and that

they should escape from the soil without the appearance of any chink or crevice from whence they spring. He deemed them an imperfection of the earth, and that they came neither by setting nor sowing.

In superstitious days, the Fungus tribe was imagined to be the work of fairies,

——— “ You demy puppets, that
By moonshine do the green sward ringlets make,
Whereof the ewe not bites ; and you, whose pastime
Is to make midnight mushrooms.”

Tempest.

Mrs. Rowden makes the same allusion :

“ In-wrought with varied hues from Fancy’s loom,
The fairies rear their temporary dome ;
Beneath the fretted roof, in secret state,
The mimic tribe on Agarica wait.”

In the eighth chapter of the sixteenth book of Pliny’s Natural History, he says, the last device of our epicures to sharpen their appetites and tempt them to eat inordinately, is the cooking of mushrooms; and in the twenty-third chapter of his twenty-second book he adds, there are some dainty wantons of such fine taste, and who study their appetite to such an excess, that they dress mushrooms with their own hands, that they may feed on

the odour during the time they are handling and preparing this food, with their fine amber knives, and silver vessels about them. He also observes, that mushrooms are eaten with some danger, although they have so delicate and pleasant a taste. This food was brought into discredit by Agrippina, who poisoned her husband, the Emperor Tiberius Claudius, by the aid of this vegetable.

It is related by Pliny*, that a whole household in Rome died by eating mushrooms; and, in another instance, all the company at a feast, who ate at the same table, perished by this poisonous vegetable; also, that Annaeus Serenus, captain of Nero's guard, with several other officers, died from eating of this dish at one dinner.

Horace† notices mushrooms as a dangerous food :

— “ *Pratensibus optima fungis
Natura est : aliis malè creditur.* ”

and which is thus translated by an old herb-alist :

“ The meadow mushrooms are in kind the best :
It is but ill-trusting to any of the rest.”

None but the peasants who gather them,

* Book xxii. chap. 23.

† Lib. ii. Sat. 4.

says Pliny, can tell the true kind, however curious they may be. The Roman naturalist then proceeds to describe the safe kind, as distinguished from the dangerous, with this preface : “ Although I dislike the indulgence of such hazardous gluttony, yet will I endeavour to guard them against the poisonous kind, which may be known by their mouldy hue, their leaden and wan colour within, as also by their edges being of a pale yellow. The true mushrooms,” he adds, “ when they first appear have a kind of thin skin, which covers them as the yolk of an egg is covered with the white, and these,” he says, “ are a good food, but even these are safest when stewed with animal food.”

The ancients used various antidotes against the venom of mushrooms : some took leeks to counteract the poison ; others recommended the eating of pears or radishes, or drinking perry, when they suspected dangerous mushrooms to have been eaten. Apollodorus prescribed the juice or seed of cabbage to be taken. Nicander recommended the seed of nettles ; others chewed rue, or took mustard-seed. Lily roots, or myrtle leaves, pounded and drunk in wine, were also esteemed good in this case.

Our own herbalist Gerard's condemnation of mushrooms is curious: he says, "Many wantons, that dwell neere the sea, and have fish at will, are very desirous, for change of diet, to feede vpon the birds of the mountaines; and such as dwell vpon the hills or champion grounds, do long after sea-fish; many that haue plenty of both, doe hunger after the earthie excrescences, called mushrooms: fewe of them are good to be eaten, and most of them do suffocate and strangle the eater. Therefore I giue my simple audience vnto those that loue such strange and newe fangled meates, to beware of licking honie among thornes, least the sweetnesse of the one do not counteruaile the sharpnesse and pricking of the other." This author says, the best mushrooms grow on mountains and hilly places.

According to Lord Bacon, mushrooms "have two strange properties: the one, that they yield so delicious a meate; the other, that they come up so hastily, as in a night, and yet are unsown; and, therefore, such as are upstarts in state are called in reproach mushrooms. We find," says he, "that mushrooms cause the accident which we call *Incubus*, or the mare in the stomach; and

therefore, the surfeit of them may suffocate and empoyson, and this sheweth that they are windy, and that their windiness is gross and swelling, not sharp and griping."

Mushrooms are now cultivated in most parts of Europe, as a delicious food ; but in no country is the cultivation so general as in England, where they are now to be procured at all seasons of the year ; and little or no apprehension is now entertained respecting their dangerous qualities, since they have become the care of our gardeners.

Mr. Bradley states, that he has seen a hundred kinds of mushrooms in England, besides those small ones which arise from the mouldiness of liquors, &c. It is, therefore, as absurd to condemn all mushrooms as poisonous, as it would be to abstain from carrots, parsnips, and celery, because the roots of some other umbellated plants, such as the water-hemlock, the dropwort, &c. are known to be venomous.

We have never heard of any persons having suffered from eating cultivated mushrooms, although they are in such general use in London and so much demanded in the markets ; while in Paris, where they have few but what are gathered in the fields, there

are continually accounts of deaths caused by these vegetables.

So much are mushrooms now in request, that we cannot content ourselves with mushroom beds only, but we have mushroom houses also. The author, on referring to his diary of November the fourteenth, finds a memorandum that would have puzzled our forefathers.

“While gathering a mushroom, the ladder slipped and I was precipitated to the ground, but without injury.”

The mushrooms in the house alluded to, were growing on beds supported one over the other by broad shelves of elm planks, with a deep ledge to keep up the earth; but from the necessary fermentation of the manure, the planks are liable to rot, therefore, where durability is required, large flag-stones should be substituted, and supported by iron props or brackets. Should stone be found too cool for the spawn, any slight boards that are not painted may be laid on it. As light is not necessary for the growth of this high-flavoured vegetable, almost every country-seat may furnish an outhouse for the purpose of obtaining mushrooms at all seasons, and of a safe quality.

The author has observed that the upper shelves in his Majesty's mushroom-house at Kensington were equally or more productive than those below: thus by good arrangement a small shed, or even a closet, may be made sufficient for the supply of a moderate family. As mice will destroy the spawn or young mushrooms, either traps must be set, or ingress allowed to their purring enemy.

In the neighbourhood of London experienced mushroom-men go about at the proper season, collecting vast quantities of spawn for the supply of seedsmen, who sell it by the bushel, the price varying according to the favourableness of the weather when it is collected. Since mushrooms have been so much grown on hot-beds, and more minutely attended to, the plant has been found so perfect that it can either be raised by seed or propagated by roots, the several filaments at the root producing tubercles in the manner of potatoes, from each of which will arise new roots and a new plant or flower.

The following simple and easy method is recommended for trying the quality of field-mushrooms: take an onion, and strip the outer skin, and boil it with them; if it re-

mains white, they are good, but if it becomes blue or black, there are certainly dangerous ones among them. Where the symptoms of poison have already taken place, the medical assistant recommends an emetic, drinking plentifully of warm water, and when the contents of the stomach are brought off, to have recourse to strong cordials, such as ginger-tea and brandy, with laudanum, or cayenne pepper made into pills.

Barham describes the symptoms to be, that soon after they are eaten, a hiccup seizes the patient, then a cold or chilling all over the body, attended with tremblings, and at last convulsions and death.

The most venomous sort is one that rises out of the earth about six inches high, rounding and hollow like a bladder, red as scarlet, full of holes like fine wrought net-work; which is most probably the *Clathrus cancellatus*. There is one kind of these mushrooms, that is said to kill the very flies that settle on them. According to Mr. Haller, says M. Valmont Bomare, the Russians eat even the mushrooms that the French consider the most dangerous, and which they use to kill flies; if this be possible, we conclude they

have some method of extracting the venomous particles of the plant, unless, like Mithridates of old, they have become so accustomed to poison, that it loses its effect on their constitutions, as the Turks take opium with indifference.

We have not heard that the morel, a kind of mushroom, has yet been cultivated, although it is said to be good for creating an appetite, is accounted restorative, and is much used in sauces and ragouts. The following accounts of extraordinary mushrooms, which we meet with in the works of respectable authors, may perhaps subject them to the imputation of credulity.

Matthiolus mentions mushrooms, which weighed thirty pounds each. Fer. Imperatus tells us, he saw some which weighed above one hundred pounds a-piece. The Journal des Scavans, furnishes us with an account of some growing on the frontiers of Hungary, which made a full cart load.

A mushroom of the very best quality was lately gathered in the neighbourhood of Brigg, in Lincolnshire, which measured three feet four inches in circumference; girth of the stalk, five inches and a half; it was two inches in thickness, and weighed twenty-nine

ounces. Six others were gathered at the same time near the above, averaging about two feet in circumference.

Chambers relates, that some years ago, an extraordinary mushroom grew upon an old piece of timber in a blacksmith's cellar in the Haymarket, and attained the height of twelve inches or more, and when cut down, appeared again at the same time the next year, and so for several succeeding years. In the year 1692, M. Tournefort found such an one growing on an old beam in the abbey at St. Germain's: the smell was like that of others of the same kind. An infusion from part of it turned an infusion of turnsol to a bright red; so that it evidently abounded in acids. This seed must have been brought by some accident to these situations, unless the fungi originated in the decaying timber. Lord Bacon says, "It is reported, that the bark of white or red poplar (which may be classed amongst the moistest trees), cut small and cast into furrows well dunged, will cause the ground to put forth mushrooms, at all seasons of the year, fit to be eaten; some add to the mixture leaven-bread, resolved in water. It is also reported, that if a hilly field, where the stubble is standing, be set on fire, in the

showery season it will put forth great store of mushrooms."

The Laplanders have a way of using the common toadstools, as the Chinese do moxa, to cure pains: they collect the large fungi which they find on the bark of beech and other large trees, and dry them for use. Whenever they have pains in their limbs, they bruise some of this dried matter, and pulling it to pieces, they lay a small heap near the part where the pain is situated, and set it on fire; in burning away it blisters up the part, and the water discharged by this means generally carries off the pain. It is a rude practice, but said to be very effectual, where the patient takes it in time, and has resolution to stand the burning to a necessary degree.

MUSTARD.—SINAPI.

Natural order, Siliquosæ. A genus of the Tetrady namia Siliquosa class.

IN Greek this plant was called *Nαπu*, by Aristophanes and others that use the Attic dialect, but more commonly *Σινπi*, *Sinapi*, *ὅτι σινπi τας ὄπας*, because it injures the eyes.

It was formerly called Senvie in English. Egypt, that claims the honour of giving birth to both Ceres and Æsculapius, was the bed from whence the best mustard first sprang, where, according to the opinion of the heathen mythologist, it was nursed by the goddess of seeds, and its qualities made known to man by the god of medicine. We will not enter into mythological dispute whether Æsculapius was the inventor of physic, or whether he only perfected that part of the art which relates to the regimen of the sick. The brute creation are taught by instinct to physic themselves by eating certain herbs. From this observation, in all probability, the

use of mustard-seed became known to man through *Æsculapius*, for the eating of so biting and penetrating a seed in food must have required long habit to have made it familiar and agreeable.

Mustard seems to have been cultivated in Syria when Christ was upon earth, as he mentions it in parable as being the least seed which was sown in the field, “but when it is grown it is the greatest among herbs.”*

The Romans made great use of mustard-seed in medicine, and they thought it one of the best of remedies for the complaints of the stomach and the lungs. From the milky juice of the plant they formed a gum that was used for the tooth-ache, and the oil which they drew from the seed was used with olive oil after the bath, by those who had stiffness occasioned by cold.

The ancients ate the young plants stewed, and the leaves of the older plants were used boiled as other pot-herbs. Pliny informs us that it grew in Italy without sowing, but that the most esteemed mustard-seed was brought from Egypt. The Romans cultivated three varieties in this author's time.†

* Matt. c. xiii. v. 31. and Mark c. iv. v. 31.

† Book xix. c. 8. and book xx. c. 22.

Of the fifteen species of this plant that have been discovered, one third are natives of Britain.

Tusser notices the cultivation of mustard-seed in Queen Mary's time. His direction for February says,

“ Where banks be amended, and newly vp cast,
Sowe mustard-seed, after a shower be past.”

The same author says, in his hints for August,

“ Maids mustard-seed gather, for being too ripe ;
And weather it wel, yer ye give it a stripe :
Then dress it and lay it in soller vp sweet,
Least foistiness make it for table vnmeet.”

Gerard informs us, that the garden-mustard, which produces the whitest seed, was not become common in Elizabeth's reign ; but that he had distributed the seed into different parts of England to make it known. Mustard was not manufactured in his day, but was brought to table whole, or bruised in vinegar. Gerard says, “ the seede of mustard pounded with vinegar, is an excellent sauce, good to be eaten with any grosse meates, either fish or flesh, because it doth helpe digestion, warmeth the stomacke, and provoketh appetite.”

Coles observes, in 1657, “ In Gloucestershire about Teuxbury, they grind it, and

make it up into balls, which are brought to London and other remote places, as being the best that the world affords."

Mustard-seed is one of the strongest pungent, stimulating, diuretic medicines, that operate without exciting much heat. By its acrimony and pungency it stimulates the solids and attenuates viscid juices ; and hence stands deservedly recommended for exciting appetite, assisting digestion, promoting the fluid secretions, and for the other purposes of the acrid plants called antiscorbutic.

This seed has often been given, unbruised, with good success to those afflicted with paralytic, cachectic, and serous disorders ; and its powder is also applied externally to stimulate benumbed and paralytic limbs or parts affected with rheumatic pains : it is generally used with a few bread crumbs and pounded garlic, made into a cataplasm with vinegar.

The flower of mustard curdles boiled milk, and gives all its pungency to the whey.

Dale, after Schroder, observes, that mustard heats and dries, incides, attenuates, and attracts.

We agree with Boerhaave, says Dr. James, that mustard, and other acrid vegetables,

prove excellent medicines, when prudently given, in distempers attended with an indolent, watery, or cold phlegmatic humour, no way saline, where acrid humours are lodged in the first passages; where the bile is sluggish, and where no alkaline, foetid, or oily putrid matter is lodged; but the body remains cold, torpid, and swelled all over; as on the other hand, mustard proves hurtful where the body is hot and feverish, the bile sharp, the juices putrid, the parts inflamed, or wasted; or where the putrid scurvy abounds.

Mustard-seed, by chemical analysis, gives a much greater indication of an acrid than of an acid salt; but it affords a considerable quantity of oil, very little fixed salt simply saline, a great deal of earth, a little urinous spirit, and no volatile concrete salt.

When mustard is calcined, it leaves very little salt in the ashes, because the salt is volatile, and flies off in the calcination.*

On the whole, mustard may be considered a wholesome condiment, when taken in moderation and with due consideration of the state of the body; but we are too apt, generally, to accustom ourselves to the same re-

* James.

gimen, without consulting our respective constitutions. Buchan remarks, that the cure of many diseases may be effected by diet alone, and although its effects are not always so quick as those of medicine, they are generally more lasting.

The young and green mustard plants, which are so readily and easily reared in the spring, are perhaps the most beneficial, as well as the most agreeable addition to our salads. On this account various ways have been invented to grow it expeditiously, all of which are too simple and well known to require explanation here.

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